

VPDES PERMIT PROGRAM FACT SHEET

This document gives pertinent information concerning the reissuance of VPDES Permit listed below. This permit is being processed as a MINOR, MUNICIPAL permit. The effluent limitations contained in this permit will maintain the water quality standards of 9 VAC 25-260-00 et seq. The discharge results from the operation of a municipal sewage treatment works receiving domestic sewage from an elementary school. This permit action consists of permit reissuance for a term of five years with updated boilerplate special conditions.

1. PERMIT NO.: VA0022730

EXISTING PERMIT

EXPIRATION DATE: July 31, 2011

2. FACILITY NAME AND LOCAL MAILING ADDRESS

Sydnor Jennings Elementary School
P.O. Box 1849
Halifax, VA 24558

FACILITY PHYSICAL LOCATION (IF DIFFERENT)

1011 Sydnor Jennings Road, Halifax County

FACILITY CONTACT:

NAME: Larry Roller

TITLE: Dir. of Operations and Maintenance
Halifax County Public Schools

PHONE: (434) 572-4346

E-MAIL:

ALTERNATE CONTACT:

NAME:

TITLE:

PHONE:

E-MAIL:

3. OWNER CONTACT: (TO RECEIVE PERMIT)

NAME: Mr. Paul D. Stapleton

TITLE: Superintendent of Schools

COMPANY NAME: Halifax County Public Schools

ADDRESS: P.O. Box 1849
Halifax, VA 24558

PHONE: (434) 476-2171

E-MAIL:

4. PERMIT DRAFTED BY: DEQ, Water Permits, Blue Ridge Regional Office

Permit Writer(s): Frank Bowman

Date(s): 5/4/11

Reviewed By: Bob Tate

Date(s): 5/19/11

5. PERMIT CHARACTERIZATION: (Check as many as appropriate)

☐ Issuance

☒ Reissuance

☐ Revoke & Reissue

☐ Owner Modification

☐ Board Modification

☐ Change of Ownership/Name

Effective Date: _____

☒ Municipal

SIC Code(s)

8211, 4952

☐ Industrial

SIC Code(s) _____

☒ POTW

☐ PVOTW

☐ Private

☐ Federal

☐ State

☐ Publicly-Owned Industrial

☐ Site-Specific WQ Criteria

☐ Variance to WQ Standards

☐ Water Effects Ratio

☐ Interim Limits in Other Document (attach to fact sheet)

☐ Concept Engineering Report Being Approved with Permit

☐ Possible Interstate Effect

6. **APPLICATION COMPLETE DATE:** April 21, 2011

7. **RECEIVING WATERS CLASSIFICATION:** River basin information.

Outfall No(s):	001	7-Day/10-Year Low Flow:	0 MGD
Receiving Stream:	UT to Bradley Creek	7-Day/10-Year High Flow:	0 MGD
River Mile:	0.4	1-Day/10-Year Low Flow:	0 MGD
Basin:	Roanoke River	1-Day/10-Year High Flow:	0 MGD
Subbasin:	Roanoke River	30-Day/5-Year Low Flow:	0 MGD
Section:	2b	30-Day/10-Year Low Flow:	0 MGD
Class:	III	Harmonic Mean Flow:	0 MGD
Special Standard(s):	PWS	On 303(d) list?	No
Tidal?	No		

8. **FACILITY DESCRIPTION:** Describe the type facility from which the discharges originate.

Existing municipal discharge resulting from resulting from a school.

(There are no industrial users contributing to the treatment works.)

9. **LICENSED WASTEWATER OPERATOR REQUIREMENTS:** (X) No () Yes Class:

10. **RELIABILITY CLASS:** II

11. **SITE INSPECTION DATE:** 5/13/09 **REPORT DATE:** 6/24/09

Performed By: Stephanie Bowman

Only the first page of the inspection report is included. See the inspection file for a full copy of the report.

SEE ATTACHMENT 1

12. **DISCHARGE(S) LOCATION DESCRIPTION:** Provide USGS Topo which indicates the discharge location, significant (large) discharger(s) to the receiving stream, water intakes, and other items of interest.

Name of Topo: Republican Grove

Quadrant No.: 046A

The raw water intake for the Town of Halifax waterworks is located 18 miles downstream from the discharge, however it is currently inactive.

SEE ATTACHMENT 2

13. **ATTACH A SCHEMATIC OF THE WASTEWATER TREATMENT SYSTEM(S) [IND. & MUN.]. FOR INDUSTRIAL FACILITIES, ALSO PROVIDE A GENERAL DESCRIPTION OF THE PRODUCTION CYCLE(S) AND ACTIVITIES. FOR MUNICIPAL FACILITIES, PROVIDE A GENERAL DESCRIPTION OF THE TREATMENT PROVIDED.**

Narrative: Sewage is treated by a septic tank, followed by a recirculating, intermittent sand filter, chlorine disinfection, post-aeration and dechlorination.

SEE ATTACHMENT 3

14. **DISCHARGE DESCRIPTION:** Describe each discharge originating from this facility.

SEE ATTACHMENT 4

15. **COMBINED TOTAL FLOW:**

TOTAL: 0.0051 MGD (for public notice)

PROCESS FLOW: MGD (IND.)

NONPROCESS FLOW: MGD (IND.)

DESIGN FLOW: 0.0051 MGD (MUN.)

16. **STATUTORY OR REGULATORY BASIS FOR EFFLUENT LIMITATIONS AND SPECIAL CONDITIONS:** (Check all which are appropriate)

- ☒ State Water Control Law
- ☒ Clean Water Act
- ☒ VPDES Permit Regulation (9 VAC 25-31-10 et seq.)
- ☒ EPA NPDES Regulation (Federal Register)
- ☐ EPA Effluent Guidelines [40 CFR 400 – 471 (industrial)]
- ☒ EPA Effluent Guidelines [40 CFR 133 (municipal 2^o treatment)]
- ☒ Water Quality Standards (9 VAC 25-260-00 et seq.)
- ☐ Waste load Allocation from a TMDL or River Basin Plan

17. **LIMITATIONS/MONITORING:** Include all effluent limitations and monitoring requirements being placed in the permit for each outfall, including any WET limits. If applicable, include any limitations and monitoring requirements being included for sludge and ground water.

Limitations and monitoring requirements are in Attachment 5.

SEE ATTACHMENT 5

18. **SPECIAL CONDITIONS:** Provide all actual permit special conditions, including compliance schedules, toxic monitoring, sludge, ground water, storm water and pretreatment.

SEE ATTACHMENT 6

19. **EFFLUENT/SLUDGE/GROUND WATER LIMITATIONS/MONITORING RATIONALE:** For outfalls, attach any analyses completed (MIX.EXE and WLA.EXE) and STATS printouts for individual toxic parameters. As a minimum, it will include: waste load allocation (acute, chronic and human health); statistics summary (number of data values, quantification level, expected value, variance, covariance, 97th percentile, and statistical method); input data listing; and, effluent limitations determination. Include all calculations used for each outfall's set of effluent limits and incorporate the results of any water quality model(s). Include all calculations/documentation of any antidegradation or anti-backsliding issues in the development of any limitations; complete the review statements below. Provide a rationale for limited internal waste streams and indicator pollutants. Attach any additional information used to develop the limitations, including any applicable water quality standards calculations (acute, chronic and human health).

OTHER CONSIDERATIONS IN LIMITATIONS DEVELOPMENT:

WAIVERS/VARIANCES/ALTERNATE LIMITATIONS: Provide justification or refutation rationale for requested waivers to the permit application (e.g., testing requirements) or variances/alternatives to required permit conditions/limitations. This includes, but is not limited to: variances from technology guidelines or water quality standards; WER/translator study consideration; variances from standard permit limits/conditions.

N/A

SUITABLE DATA: What, if any, effluent data were considered in the establishment of effluent limitations and provide all appropriate information/calculations.

All suitable effluent data were reviewed.

ANTIDEGRADATION REVIEW: Provide all appropriate information/calculations for the antidegradation review.

Tier I: X Tier II: Tier III:

The State Water Control Board's Water Quality Standards regulations include an antidegradation policy (9 VAC 25-260-30). All state surface waters are provided one of three levels of antidegradation protection. For Tier I, existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier II water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier II waters is not allowed without an evaluation of the economic and social impacts. Tier III water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The antidegradation review begins with the Tier determination. The facility discharges to an unnamed tributary to Bradley Creek. This receiving stream is not listed on the 303(d) list and no in-stream data are available that indicate the water quality criteria either have been violated or are barely met. However, the receiving stream critical flows have been determined to be equivalent to 0.0 MGD and the permit contains water quality-based limits for ammonia (full allocation). Tier II begins at Bradley Creek which is perennial flow, and the UT is Tier I, which is intermittent flow. Therefore, the UT to Bradley Creek, at the point of this facility's discharge, is designated as Tier I and no further review is needed. Permit limits have been established by determining waste load allocations which will result in attaining and/or maintaining all water quality criteria which apply to the receiving stream, including narrative criteria. These waste load allocations will provide for the protection and maintenance of all existing uses.

ANTIBACKSLIDING REVIEW: Indicate if antibacksliding applies to this permit and, if so, provide all appropriate information.

There are no backsliding issues to address in this permit (i.e., limits as stringent or more stringent when compared to the previous permit).

SEE ATTACHMENT 7

20. **SPECIAL CONDITIONS RATIONALE:** Provide a rationale for each of the permit's special conditions, including compliance schedules, toxic monitoring, sludge, ground water, storm water and pretreatment.

SEE ATTACHMENT 8

21. **SLUDGE DISPOSAL PLAN:** Provide a brief description of the sludge disposal plan (e.g., type sludge, treatment provided and disposal method). Indicate if any of the plan elements are included within the permit.

Septage is removed from the grease trap, septic tanks and distribution box on an annual basis (during the month of August) via a septage hauler who hauls to the South Boston Sewage Treatment plant for disposal.

22. **MATERIAL STORED:** List the type and quantity of wastes, fluids, or pollutants being stored at this facility. Briefly describe the storage facilities and list, if any, measures taken to prevent the stored material from reaching State waters.

NONE.

23. **RECEIVING WATERS INFORMATION:** Refer to the State Water Control Board's Water Quality Standards [e.g., River Basin Section Tables (9 VAC 25-260 - Part IX) [along with Parts VII and VIII]]. Use 9 VAC 25-260-140 C (introduction and numbered paragraph) to address tidal waters where fresh water standards would be applied or transitional waters where the most stringent of fresh or salt water standards would be applied. Attach any memoranda or other information which helped to develop permit conditions (i.e. flow determination memo, tier determinations, PReP complaints, special water quality studies, STORET data and other biological and/or chemical data, etc.

SEE ATTACHMENT 9

24. **303(d) LISTED SEGMENTS:** Indicate if the facility discharges directly to a segment that is listed on the current 303(d) list, if the allocations are specified by an approved TMDL and, if so, provide all appropriate information/calculations. If the facility discharges directly to a stream segment that is on the current 303(d) list, the fact sheet must include a description of how the TMDL requirements are being met.

TMDLs are not included in this permit as the receiving waters are not listed on the 303 (d) list.

25. **CHANGES TO PERMIT:** Use TABLE A to record any changes from the previous permit and the rationale for those changes. Use TABLE B to record any changes made to the permit during the permit processing period and the rationale for those changes [i.e., use for comments from the applicant, VDH, EPA, other agencies and/or the public where comments resulted in changes to the permit limitations or any other changes associated with the special conditions or reporting requirements].

SEE ATTACHMENT 10

26. **NPDES INDUSTRIAL PERMIT RATING WORKSHEET:**

N/A - This is a municipal facility.

27. **EPA/VIRGINIA DRAFT PERMIT SUBMISSION CHECKLIST:**

SEE ATTACHMENT 11

28. **DEQ PLANNING COMMENTS RECEIVED ON DRAFT PERMIT:** Document any comments received from DEQ planning.

The discharge is not addressed in any planning document as there are no established water quality-based waste load allocations.

29. **PUBLIC PARTICIPATION:** Document comments/responses received during the public participation process. If comments/responses provided, especially if they result in changes to the permit, place in the attachment.

PREVIOUS BOARD ACTION: none

VDH COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the Virginia Dept. of Health and noted how resolved.

Based on their review of the application, the VDH had no objections to the draft permit, as stated by memo dated February 2, 2011. The VDH provided the following comments: "The raw water intake for the Town of Halifax waterworks is located 18 miles downstream from the discharge, however it is currently inactive. The plant is being held in reserve. We recommend a minimum Reliability Class II for this facility."

EPA COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from the U.S. Environmental Protection Agency and noted how resolved.

In an e-mail dated July 8, 2011, EPA provided the following comments: "We received the draft permit for Sydnor Jennings ES (VA0022730) on 6/10/11. Our records show that this is a minor permit discharging to a stream with an approved TMDL. Therefore, we performed a limited review based on the wasteload allocations (WLAs) required in the approved TMDL. I have completed this limited review and have the no comments related to the compliance with the TMDL requirements."

ADJACENT STATE COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from an adjacent state and noted how resolved.

None.

OTHER AGENCY COMMENTS RECEIVED ON DRAFT PERMIT: Document any comments received from any other agencies (e.g., VIMS, VMRC, DGIF, etc.) and noted how resolved.

None

STAFF COMMENTS:

None

Document any comments received from other sources and note how resolved.

PUBLIC NOTICE INFORMATION: Comment Period: **Start Date:** June 28, 2011
End Date: July 28, 2011

Persons may comment in writing or by email to the DEQ on the proposed permit action, and may request a public hearing, during the comment period. Comments shall include the name, address, and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may review the draft permit and application at the DEQ Blue Ridge Regional Office by appointment.

The permittee is current with their annual permit maintenance fees.

Attachment <u>1</u>	Site Inspection Report/Memorandum
Attachment <u>2</u>	Discharge Location/Topographic Map
Attachment <u>3</u>	Schematic/Plans & Specs/Site Map/Water Balance
Attachment <u>4</u>	Discharge/Outfall Description
Attachment <u>5</u>	Limitations/Monitoring
Attachment <u>6</u>	Special Conditions
Attachment <u>7</u>	Effluent/Sludge/Ground Water Limitations/Monitoring Rationale/Suitable Data/ Stream Modeling/Antidegradation/Antibacksliding
Attachment <u>8</u>	Special Conditions Rationale
Attachment <u> </u>	Material Stored
Attachment <u>9</u>	Receiving Waters Info./Tier Determination/STORET Data
Attachment <u> </u>	303(d) Listed Segments
Attachment <u>10</u>	TABLE A and TABLE B - Change Sheets
Attachment <u> </u>	NPDES Industrial Permit Rating Worksheet
Attachment <u>11</u>	EPA/Virginia Draft Permit Submission Checklist
Attachment <u>12</u>	Chronology Sheet
Attachment <u> </u>	

ATTACHMENT 1

SITE INSPECTION REPORT/MEMORANDUM

Virginia Department of Environmental Quality

COMPLIANCE INSPECTION REPORT

FACILITY NAME: Halifax County Schools - Sydnor Jennings Elementary		INSPECTION DATE: 05-13-09	
		INSPECTOR: Stephanie Bowman	
PERMIT No.: VA0022730		REPORT DATE: 06-24-09	
TYPE OF FACILITY: <input checked="" type="checkbox"/> Municipal <input type="checkbox"/> Major <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Federal <input type="checkbox"/> Small Minor <input type="checkbox"/> HP <input type="checkbox"/> LP	TIME OF INSPECTION:		Arrival 10:30
			Departure 11:30
		TOTAL TIME SPENT (including prep & travel)	8 hours
PHOTOGRAPHS: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		UNANNOUNCED INSPECTION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
REVIEWED BY / Date: Fred T. DiLella <i>Fred T. DiLella</i> 6-25-09			
PRESENT DURING INSPECTION: Operator not on site			

<u>WL/NOV #</u> : <u>Paraphrase Noncompliance issues</u>	<u>Reported Cause of Noncompliance:</u>	<u>Corrective Action Taken:</u>
N/A	N/A	N/A

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

VPDES NO. VA0022730

UNIT PROCESS: Septic Tank/Dosing Siphon/Sand Filter

- | | | | |
|---|--|--|--|
| 1. Grease trap preceding septic tank: | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> NA |
| 2. When was septic tank last pumped? <u>July 2008</u> | | | |
| 3. Dosing siphon operational (doesn't trickle): | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input checked="" type="checkbox"/> NA |
| 4. Condition of dosing siphon: | <input type="checkbox"/> Good | <input type="checkbox"/> Fair | <input type="checkbox"/> Poor* |
| 5. Number of sand filters: | | | |
| 6. Condition of distribution system including seals: | <input checked="" type="checkbox"/> Good | <input type="checkbox"/> Fair | <input type="checkbox"/> Poor* |
| 7. Following problems evident: | | | |
| a. grass on filter | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| b. ponding | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| c. uneven sand | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| d. places of black or septic sand | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| e. uneven distribution of influent | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| f. solids on surface | <input type="checkbox"/> Yes* | <input checked="" type="checkbox"/> No | |
| 8. Wasted sand disposed of properly? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No* | |

Comments:

1. At the time of the inspection, the sand appeared level and well maintained with no vegetative growth in the system.

INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

VPDES NO. VA0022730

UNIT PROCESS: Chlorination

1. No. of chlorinators: 1 In operation: 1
2. No. of evaporators: 0 In operation: 0
3. No. of chlorine contact tanks: 1 In operation: 1
4. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
5. How is chlorine introduced into the wastewater?
☐ Perforated diffusers
☐ Injector with single entry point
☒ Other Tablet Feeder
6. Chlorine residual in basin effluent: >2.2 mg/L
7. Applied chlorine dosage: Unknown lbs/day
8. Contact basins adequately baffled: ☒ Yes ☐ No*
9. Adequate ventilation:
 - a. cylinder storage area ☐ Yes ☐ No* X N/A
 - b. equipment room ☐ Yes ☐ No* X N/A
10. Proper safety precautions used: ☒ Yes ☐ No*
11. General condition: ☒ Good ☐ Fair ☐ Poor

Comments: This unit appears to be operating properly and was well chlorinated at the time of the inspection.

UNIT PROCESS: Dechlorination

1. Chemical used: ☐ Sulfur Dioxide ☐ Bisulfite ☒ Sodium Sulfite
2. No. of sulfonators: 1 In operation: 1
3. No. of evaporators: 0 In operation: 0
4. No. of chemical feeders: 1 In operation: 1
5. No. of contact tanks: 1 In operation: 1
6. Proper flow distribution between units: ☐ Yes ☐ No* ☒ NA
7. How is chemical introduced into the wastewater?
- ☐ Perforated diffusers
- ☐ Injector with single entry point?
- ☒ Other Tablet Feeder
8. Control system operational: ☒ Yes ☐ No*
- a. residual analyzers: ☐ Yes ☒ No*
- b. system adjusted: ☐ Automatic ☒ Manual ☐ Other:
9. Applied dechlorination dose: Unknown lbs/day
10. Chlorine residual in basin effluent: 0.0 mg/L
11. Contact basins adequately baffled: ☒ Yes ☐ No* ☐ NA
12. Adequate ventilation:
- a. cylinder storage area: ☒ Yes ☐ No*
- b. equipment room: ☐ Yes ☐ No* NA
13. Proper safety precautions used: ☒ Yes ☐ No*
14. General condition: ☒ Good ☐ Fair ☐ Poor

Comments: This unit appears to be operating properly.

EFFLUENT FIELD DATA:

Flow	<u>N/A</u> MGD	Dissolved Oxygen	<u>8.06</u> mg/L	TRC (Contact Tank)	<u>>2.2</u> mg/L
pH	<u>6.73</u> S.U.	Temperature	<u>15.5</u> °C	TRC (Final Effluent)	<u>0.0</u> mg/L
Was a Sampling Inspection conducted? <input checked="" type="checkbox"/> Yes (see Sampling Inspection Report) <input type="checkbox"/> No					

CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall:	<input checked="" type="checkbox"/> Shore based	<input type="checkbox"/> Submerged	Diffuser?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Are the outfall and supporting structures in good condition?				<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
3. Final Effluent (evidence of following problems):	<input type="checkbox"/> Sludge bar		<input type="checkbox"/> Grease		
	<input type="checkbox"/> Turbid effluent	<input type="checkbox"/> Visible foam	<input type="checkbox"/> Unusual color	<input type="checkbox"/> Oil sheen	
4. Is there a visible effluent plume in the receiving stream?				<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
5. Receiving stream:	<input checked="" type="checkbox"/> No observed problems		<input type="checkbox"/> Indication of problems (explain below)		
<u>Comments: no problems observed</u>					

REQUIRED CORRECTIVE ACTIONS:

1. No recommendations at this time.

NOTES and COMMENTS:

1. The inspector observed that this system appears to be well maintained.

10/01

NEO form: 09-2008

LABORATORY RECORDS SECTION

LABORATORY RECORDS INCLUDE THE FOLLOWING:

<input checked="" type="checkbox"/>	SAMPLING DATE	<input checked="" type="checkbox"/>	ANALYSIS DATE	<input type="checkbox"/>	CONT MONITORING CHART
<input checked="" type="checkbox"/>	SAMPLING TIME	<input checked="" type="checkbox"/>	ANALYSIS TIME	<input checked="" type="checkbox"/>	INSTRUMENT CALIBRATION
<input checked="" type="checkbox"/>	SAMPLE LOCATION	<input checked="" type="checkbox"/>	TEST METHOD	<input type="checkbox"/>	INSTRUMENT MAINTENANCE
				<input checked="" type="checkbox"/>	CERTIFICATE OF ANALYSIS

WRITTEN INSTRUCTIONS INCLUDE THE FOLLOWING:

<input type="checkbox"/>	SAMPLING SCHEDULES	<input type="checkbox"/>	CALCULATIONS	<input type="checkbox"/>	ANALYSIS PROCEDURES
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	YES	NO	N/A
DO ALL ANALYSTS INITIAL THEIR WORK?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DO BENCH SHEETS INCLUDE ALL INFORMATION NECESSARY TO DETERMINE RESULTS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IS THE DMR COMPLETE AND CORRECT? MONTH REVIEWED: <u>04-2009</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARE ALL MONITORING VALUES REQUIRED BY THE PERMIT REPORTED?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

GENERAL SAMPLING AND ANALYSIS SECTION

	YES	NO	N/A
ARE SAMPLE LOCATION(S) ACCORDING TO PERMIT REQUIREMENTS?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARE SAMPLE COLLECTION PROCEDURES APPROPRIATE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IS SAMPLE EQUIPMENT CONDITION ADEQUATE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IS FLOW MEASUREMENT ACCORDING TO PERMIT REQUIREMENTS?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ARE COMPOSITE SAMPLES REPRESENTATIVE OF FLOW?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ARE SAMPLE HOLDING TIMES AND PRESERVATION ADEQUATE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IF ANALYSIS IS PERFORMED AT ANOTHER LOCATION, ARE SHIPPING PROCEDURES ADEQUATE? LIST PARAMETERS AND NAME & ADDRESS OF LAB:			
<ul style="list-style-type: none"> EnviroCompliance Laboratories, Inc. 10357 Old Keeton Road Ashland, VA 23005 COD, TSS, TKN, NH₃, BOD, CBOD 			

LABORATORY EQUIPMENT SECTION

	YES	NO	N/A
IS LABORATORY EQUIPMENT IN PROPER OPERATING RANGE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ARE ANNUAL THERMOMETER CALIBRATION(S) ADEQUATE?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IS THE LABORATORY GRADE WATER SUPPLY ADEQUATE?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ARE ANALYTICAL BALANCE(S) ADEQUATE?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

LABORATORY INSPECTION REPORT SUMMARY

Halifax Co. Schools-Sydnor Jennings Elementary	FACILITY NO: VA0022730	INSPECTION DATE: 05/13/09
LABORATORY EVALUATION:	<input checked="" type="checkbox"/> (X) Deficiencies <input type="checkbox"/> () No Deficiencies	
LABORATORY RECORDS		
<i>The laboratory records section has deficiencies.</i> 1. The staff is occasionally using White-Out and overwriting data on the bench sheets.		
GENERAL SAMPLING AND ANALYSIS		
The General Sampling and Analysis section has no deficiencies.		
LABORATORY EQUIPMENT		
The Laboratory Equipment section has no deficiencies.		
INDIVIDUAL PARAMETERS		
<p style="text-align: center;"><u>Total Residual Chlorine (TRC)</u></p> <p><i>The analysis for the parameter of TRC has deficiencies.</i></p> <ol style="list-style-type: none"> 1. The staff has not demonstrated the TRC collection and analysis times to document that the samples were processed within the 15 minute holding time. <p style="text-align: center;"><u>pH</u></p> <p><i>The analysis for the parameter of pH has deficiencies.</i></p> <ol style="list-style-type: none"> 1. The staff has not demonstrated the pH collection and analysis times to document that the samples were processed within the 15 minute holding time. 2. The staff has not documented the pH buffer temperatures or the times during calibration. 3. The facility log sheets must reference the standard method used. 		

COMPLIANCE RECOMMENDATIONS

1. *The staff must document both the TRC sample collection time and analysis time which indicates proper holding time.*
2. *The staff must document both the pH sample collection time and analysis time which indicates proper holding time.*
3. *The staff must record the pH buffer temperatures at the time of calibration.*
4. *The staff must not use White-out or scratch-out data. When a correction is required, use one line to mark out the incorrect data and initial. Refer to Reference Part 1000 of the 18th Edition of Standard Methods for acceptable QC/QA practices for a laboratory.*
5. *The standard method must be noted on the bench sheets.*

ANALYST:	Cathy Burns	VPDES NO	VA0022730
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Meter: Sension 1

Parameter: Hydrogen Ion (pH)
1/08

Method: Electrometric

METHOD OF ANALYSIS:

X*	18 th Edition of Standard Methods – 4500-H ⁺ B
	21 st or Online Editions of Standard Methods – 4500-H ⁺ B (00)

pH is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]

- 1) Is a certificate of operator competence or initial demonstration of capability available for each analyst/operator performing this analysis? **NOTE:** Analyze 4 samples of known pH. May use external source of buffer (different lot/manufacturer than buffers used to calibrate meter). Recovery for each of the 4 samples must be +/- 0.1 SU of the known concentration of the sample. [SM 1020 B.1]
- 2) Is the electrode in good condition (no chloride precipitate, scratches, deterioration, etc.)? [2.b/c and 5.b]
- 3) Is electrode storage solution in accordance with manufacturer's instructions? [Mfr.]
- 4) Is meter calibrated on at least a daily basis using three buffers all of which are at the same temperature? [4.a] **NOTE:** Follow manufacturer's instructions. *Temperatures not documented
- 5) After calibration, is a buffer analyzed as a check sample to verify that calibration is correct? Agreement should be within +/- 0.1 SU. [4.a]
- 6) Do the buffer solutions appear to be free of contamination or growths? [3.1]
- 7) Are buffer solutions within the listed shelf-life or have they been prepared within the last 4 weeks? [3.a]
- 8) Is the cap or sleeve covering the access hole on the reference electrode removed when measuring pH? [Mfr.]
- 9) For meters with ATC that also have temperature display, is the thermometer verified annually? [SM 2550 B.1] 3-17-09
- 10) Is temperature of buffer solutions and samples recorded when determining pH? [4.a]
- 11) Is sample analyzed within 15 minutes of collections? [40 CFR Part 136]
- 12) Is the electrode rinsed and then blotted dry between reading solutions (Disregard if a portion of the next sample analyzed is used as the rinsing solution.)? [4.a]
- 13) Is the sample stirred gently at a constant speed during measurement? [4.b]
- 14) Does the meter hold a steady reading after reaching equilibrium? [4.b]
- 15) Is a duplicate sample analyzed after every 20 samples if citing 18th or 19th Edition or daily for 20th or 21st Edition? [Part 1020] **NOTE:** Not required for *in situ* samples.
- 16) Is the pH of duplicate samples within 0.1SU of the original sample? [Part 1020]
- 17) Is there a written procedure for which result will be reported on DMR (Sample or Duplicate) and is this procedure followed? [DEQ]

Y	N
X	
	*
	*
	X*
X	
	*
	*
	*
X	
	X*
	X*
	*
	*
	*
	NA
	NA
	NA

Parameter: Hydrogen Ion (pH)
(continued)

Problems:

1. *The buffer temperatures must be recorded daily when performing the pH calibration.*
2. *The collection and analytical temperatures of the sample must be recorded to reflect that the proper 15 minute holding time is correct.*
3. *The operator is occasionally scratching out data to make corrections.*
4. *The facility log sheets must reference the standard method used.*

ANALYST:	Cathy Burns	VPDES NO.	VA0022730
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Instrument: Pocket Colorimeter II Parameter: Total Residual Chlorine (TRC)
Method: DPD Colorimetric (HACH Pocket Colorimeter)
1/08

METHOD OF ANALYSIS:

HACH Manufacturer's Instructions (Method 8167) plus an edition of *Standard Methods*

X	18 th Edition of <i>Standard Methods</i> 4500-Cl G	Y	N
	21 st Edition of <i>Standard Methods</i> 4500-Cl G (00)		
1)	Is a certificate of operator competence or initial demonstration of capability available for <u>each analyst/operator</u> performing this analysis? NOTE: Analyze 4 samples of known TRC. Must use a lot number or source that is different from that used to prepare calibration standards. May not use Spec [√] ™. [SM 1020 B.1]	X	
2)	Are the DPD PermaChem™ Powder Pillows stored in a cool, dry place? [Mfr.]		*
3)	Are the pillows within the manufacturer's expiration date? [Mfr.]		*
4)	Has <i>The facility log sheets must reference the standard method used annually?</i> (Pillows should adjust sample pH to between 6 and 7) [Mfr.]		X*
5)	When pH adjustment is required, is H ₂ SO ₄ or NaOH used? [Hach 11.3.1]		*
6)	Are cells clean and in good condition? [Mfr.]		*
7)	Is the low range (0.01 mg/L resolution) used for samples containing residuals from 0.2.00 mg/L? [Mfr.]		*
8)	Is calibration curve developed (may use manufacturer's calibration) with daily verification using a high and a low standard? NOTE: May use manufacturer's installed calibration and commercially available chlorine standards for daily calibration verifications. [18 th ed 1020 B.5; 21 st ed 4020 B.2.b]	X	
9)	Is the 10-mL cell (2.5-cm diameter) used for samples from 0-2.00 mg/L? [Mfr.]		*
10)	Is meter zeroed correctly by using sample as blank for the cell used? [Mfr.]		*
11)	Is the instrument cap placed correctly on the meter body when the meter is zeroed and when the sample is analyzed? [Mfr.]		*
12)	Is the DPD Total Chlorine PermaChem™ Powder Pillow mixed into the sample? [Hach 11.1]		*
13)	Is the analysis made at least three minutes but not more than six minutes after PermaChem™ Powder Pillow addition? [Hach 11.2]		*
14)	If read-out is flashing [2.20], is sample diluted correctly, and then reanalyzed? [Hach 1.2 & 2.0]	X	
15)	Are samples analyzed within 15 minutes of collection? [40 CFR Part 136] <u>*No documentation</u>		X*
16)	Is a duplicate sample analyzed after every 20 samples if citing 18 th Edition [SM 1020 B.6] or daily for 21 st Edition [SM 4020 B.3.c]?		N/A
17)	If duplicate sample is analyzed, is the relative percent difference (RPD) ≤ 20? [18 th ed. Table 1020 I; 21 st ed. DEQ]		N/A

Parameter: Total Residual Chlorine
(continued)

Problems:

1. *The staff is not documenting that the TRC collection and analysis is within the 15 minute holding time.*

ANALYST:	Cathy Burns	VPDES NO	VA0022730
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Meter: _____

Parameter: Dissolved Oxygen
Method: Membrane Electrode
Facility Elevation 600 '
1/08

METHOD OF ANALYSIS:

X	18 th Edition of Standard Methods – 4500-O G
	21 st or Online Editions of Standard Methods – 4500-O G (01)

DO is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]		Y	N
1)	If samples are collected, is collection carried out with a minimum of turbulence and air bubble formation and is the sample bottle allowed to overflow several times its volume? [1.c]		*
2)	Are meter and electrode operable and providing consistent readings? [3]		*
3)	Is membrane in good condition without trapped air bubbles? [3.b]		*
4)	Is correct filling solution used in electrode? [Mfr.]		*
5)	Are water droplets shaken off the membrane prior to calibration? [Mfr.]		*
6)	Is meter calibrated before use or at least daily? [Mfr. & Part 1020]		*
7)	Is calibration procedure performed according to manufacturer's instructions? [Mfr.]		*
8)	Is sample stirred during analysis? [Mfr.]		*
9)	Is the sample analysis procedure performed according to manufacturer's instructions? [Mfr.]		*
10)	Is meter stabilized before reading D.O.? [Mfr.]		*
11)	Is electrode stored according to manufacturer's instructions? [Mfr.]		*
12)	Is a duplicate sample analyzed after every 20 samples if citing 18 th or 19 th Edition or daily if citing 20 th or 21 st Edition? [Part 1020] NOTE: Not required for <i>in situ</i> samples.		N/A
13)	If a duplicate sample is analyzed, is the reported value for that sampling event the average concentration of the sample and the duplicate? [DEQ]		N/A
14)	If a duplicate sample is analyzed, is the relative percent difference (RPD) \leq 20? [18 th ed. Table 1020 I; 21 st ed. DEQ]		N/A

PROBLEMS: Operator and equipment not on site for review

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
EQUIPMENT TEMPERATURE LOG/THERMOMETER VERIFICATION CHECK SHEET

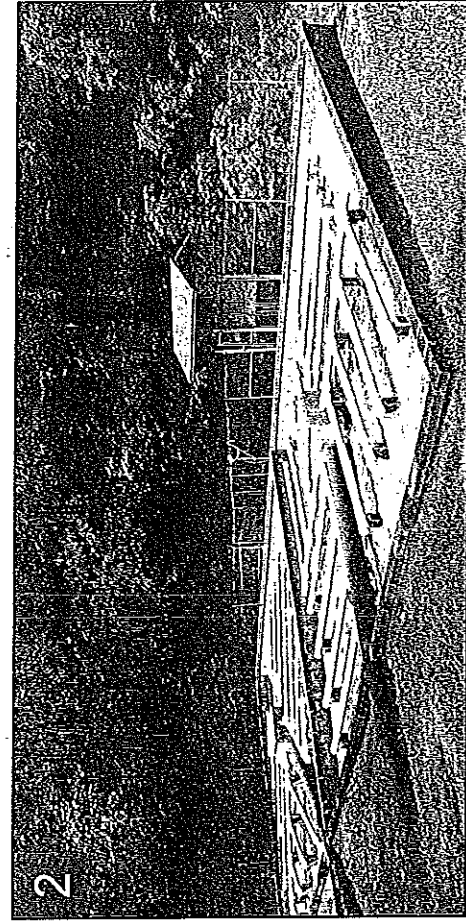
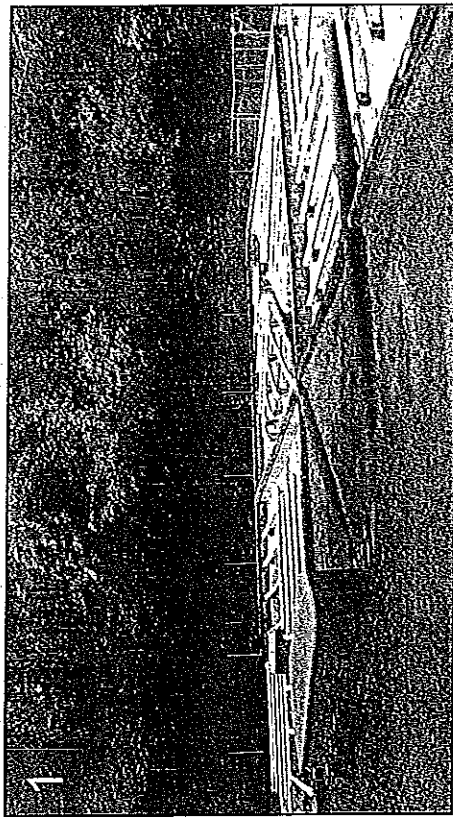
1/08

FACILITY NAME:	Halifax County Schools-Sydnor Jennings Elementary			VPDES NO:	VA0022730		DATE:	05-13-09					
EQUIPMENT	RANGE	IN RANGE		INSPECT READING °C	CHECK & LOG DAILY		CORRECT INCREMENT		ANNUAL THERMOMETER VERIFICATION				
									DATE CHECKED	MARKED		CORR FACTOR °C	INSPECT TEMP °C
		Y	N		Y	N	Y	N		Is the NIST / NIST-Traceable Reference Thermometer within the manufacturer's expiration date or recertified yearly? 5/20/2009	Y/N		
SAMPLE REFRIGER.	1-6°C												
AUTO SAMPLER	1-6° C												
BOD INCUBATOR	20 ± 1° C												
SOLIDS DRYING OVEN	103-105° C												
WATER BATH	44.5 ± .2° C												
INCUBATOR	35± .5° C												
AUTOClave	121° C IN 30 MIN												
HOT AIR STERILIZING	170 ± 10° C												
O & G WATER BATH	70± 2° C												
REAGENT REFRIGER.	1-6° C												
pH METER	± 1° C			*not read									
DO METER	± 1° C			*not read									
THERMOMETER-OUTFALL	± 1° C												
Hg WATER BATH	95 ° C												

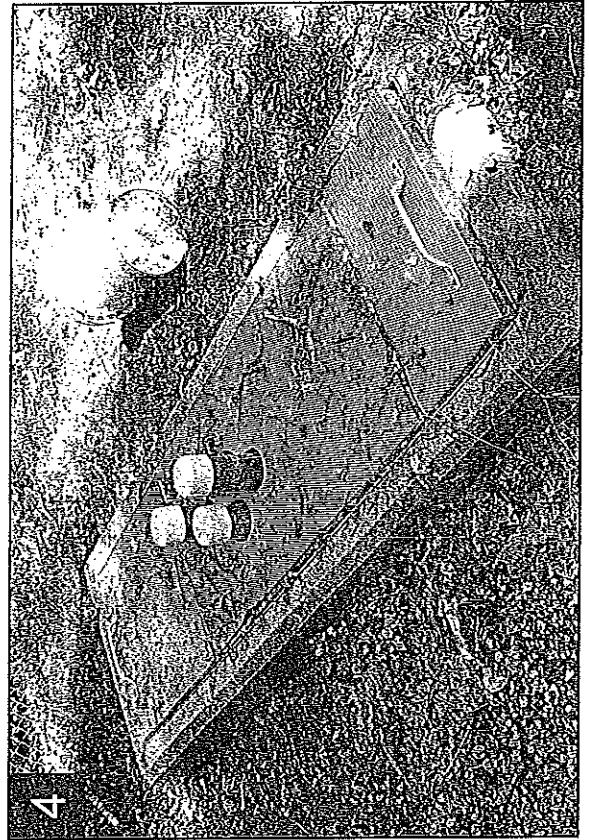
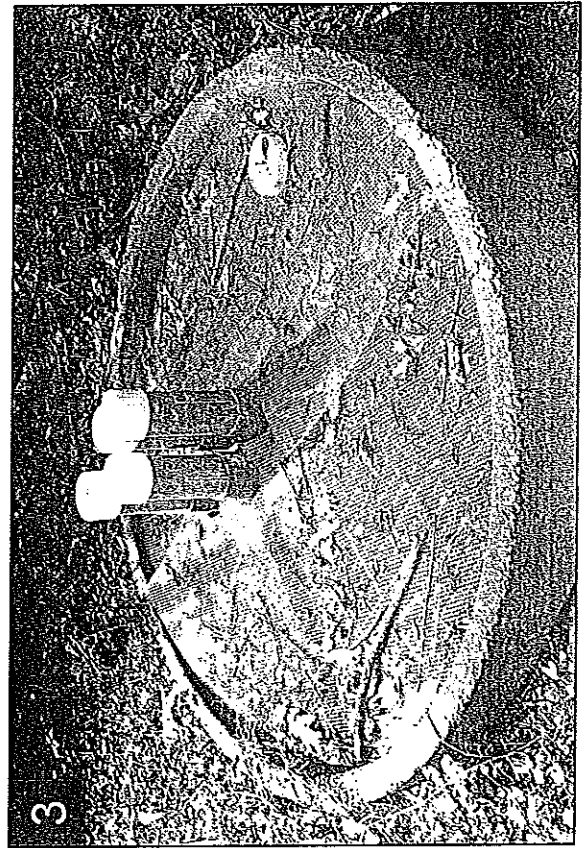
PROBLEMS: *Equipment not available on site, operator not present

DEPARTMENT OF ENVIRONMENTAL QUALITY - WATER DIVISION
SAMPLE ANALYSIS HOLDING TIME/CONTAINER/PRESERVATION CHECK SHEET
Revised 3/08 [40 CFR, Part 136.3, Table III]

FACILITY NAME:		Halifax County Schools-Sydnor Jennings Elementary		VPDES NO	VA0022730	SAMPLE DATE:	04-08-09				
HOLDING TIMES		SAMPLE CONTAINER				PRESERVATION					
PARAMETER	APPROVED	MET?		LOGGED?		ADEQ. VOLUME	APPROP. TYPE	APPROVED	MET?		CHECKED?
		Y	N	Y	N				Y	N	
BOD5 & CBOD5	48 HOURS	X		X		X	X	ANALYZE 2 HRS or 6°C	X		X
TSS	7 DAYS	X		X		X	X	6°C	X		X
FECAL COLIFORM / E. coli / Enterococci	6 HRS & 2 HRS TO PROCESS							6°C (1 HOUR) + 0.008% Na ₂ S ₂ O ₃			
pH	15 MIN.		X*		X*			N/A			
CHLORINE	15 MIN.		X*		X*			N/A			
DISSOLVED O ₂	15 MIN./IN SITU	X						N/A			
TEMPERATURE	IMMERSION STAB.							N/A			
OIL & GREASE	28 DAYS							6°C + H ₂ SO ₄ /HCL pH<2			
AMMONIA	28 DAYS	X		X		X	X	6°C + H ₂ SO ₄ pH<2 DECHLOR	X		X*
TKN	28 DAYS							6°C + H ₂ SO ₄ pH<2 DECHLOR			
NITRATE	48 HOURS							6°C			
NITRATE+NITRITE	28 DAYS							6°C + H ₂ SO ₄ pH<2			
NITRITE	48 HOURS							6°C			
PHOSPHATE, ORTHO	48 HOURS							FILTER, 6°C			
TOTAL PHOS.	28 DAYS							6°C + H ₂ SO ₄ pH<2			
METALS (except Hg)	6 MONTHS							HNO ₃ pH<2			
MERCURY (CVAA)	28 DAYS							HNO ₃ pH<2			
PROBLEMS: *not recording collection & analytical times for pH and TRC								PROBLEMS: *Sample pH not recorded for NH ₃			



1 & 2- Splitter box and sand filters
3- Chlorine Contact tank
4- Dechlorination tank



ATTACHMENT 2

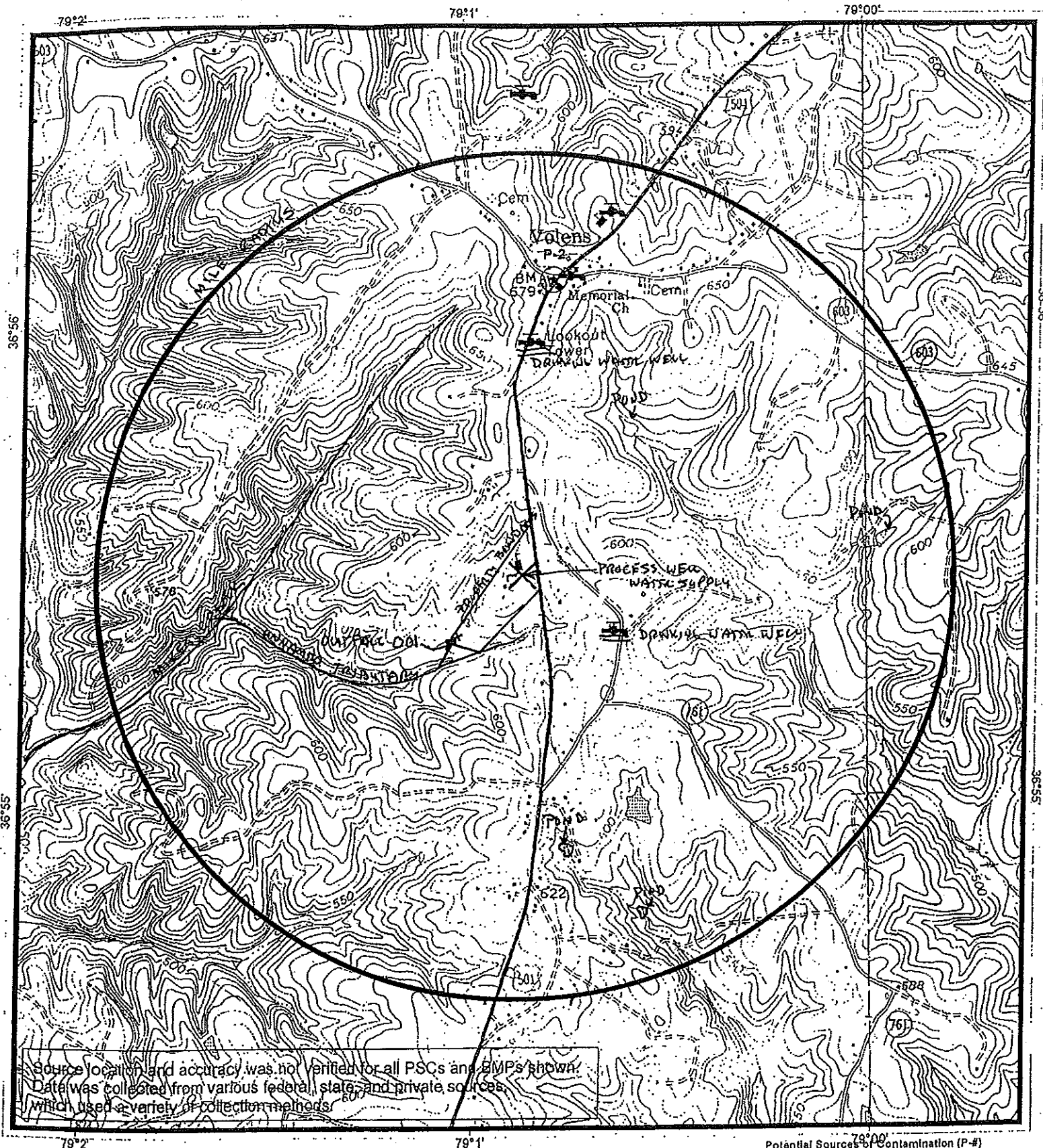
DISCHARGE LOCATION/TOPOGRAPHIC MAP

SECTION A
ITEM 5

SWAP Zone 2 Map

VA 0022730
SYDNOR JENNINGS ELEMENTARY SCHOOL

DISTRICT 13
COUNTY/CITY: HALIFAX



Ground Water Sources

Selected Water Source

LUA Polygons

PC Polygons

Land Use Activities (L-#)

Potential Conduits (C-#)

Best Management Practices (B-#)

VDH VIRGINIA DEPARTMENT OF HEALTH
Protecting You and Your Environment

Division of Water Supply Engineering

800 0 800 1600 Feet

Print Date: July 2001

Potential Sources of Contamination (P-#)

Land Use

Discharge - No Discharge Facilities

DEOSWRO - Storage Tank Releases

Adms

Cloud

Airports

Industrial Sites

Superfund Sites

Golf Courses

Underground Injection Wells

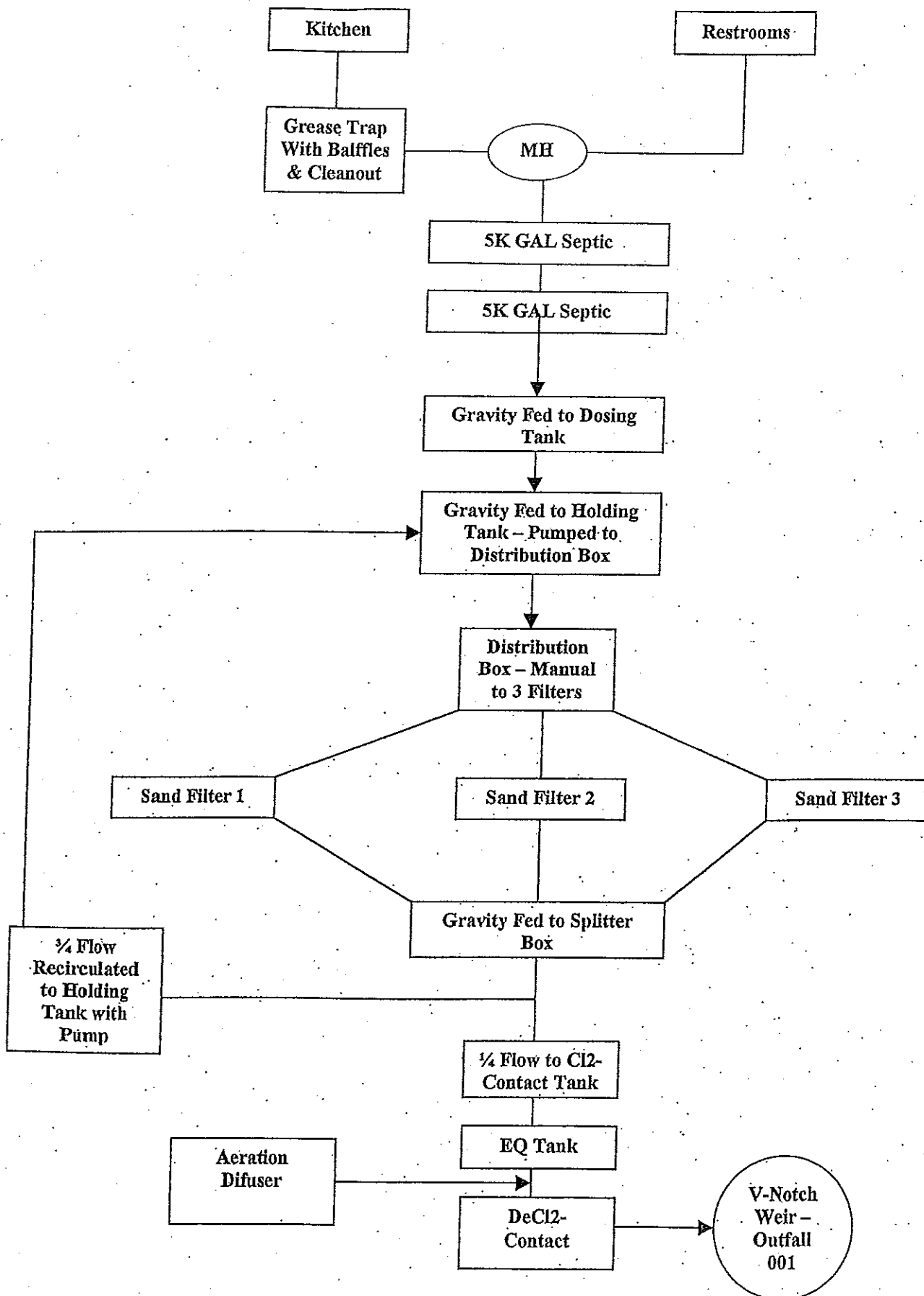
Hazardous and RCRA Sites

Hospitals

The Pias

ATTACHMENT 3

SCHEMATIC



ATTACHMENT 4

DISCHARGE/OUTFALL DESCRIPTION

TABLE I
NUMBER AND DESCRIPTION OF OUTFALLS

OUTFALL NO.	DISCHARGE LOCATION	DISCHARGE SOURCE (1)	TREATMENT (2)	FLOW (3)
001	N 36° 55' 18.6" W 79° 0' 59.4"	Sewage from an elementary school	Septic tank followed by recirculating, intermittent sand filter, chlorination, post aeration and dechlorination	0.0051 mgd

- (1) List operations contributing to flow
(2) Give brief description, unit by unit
(3) Give maximum 30-day average flow for industry and design flow for municipal

ATTACHMENT 5

LIMITATIONS/MONITORING

MUNICIPAL EFFLUENT LIMITATIONS/MONITORING

OUTFALL # 001 DESIGN FLOW: 0.0051 MGD
 Outfall Description: Final discharge after dechlorination.
 SIC CODE: 4952 NAICS CODE: 611110

(x) Final Limits () Interim Limits Effective Dates - From: Permit Effective date To: Permit expiration date

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS							MONITORING REQUIREMENTS	
	MONTHLY AVERAGE		WEEKLY AVERAGE		MINIMUM		MAXIMUM		FREQUENCY
	mg/l*	kg/day*	mg/l*	kg/d*	mg/l*	mg/l*	mg/l*	mg/l*	
Flow (MGD) [a]	NL			NA			NL		5 Days/Week
BOD5 [c] [d]	24	0.46	36	0.69	NA	NA	NA		1/3 Months
Total Suspended Solids [c] [d]	30	0.58	45	0.87	NA	NA	NA		1/3 Months
Ammonia [c] [d]	8.4	NA	8.4	NA	NA	NA	NA		1/3 Months
Total Residual Chlorine (µg/l) [b][c]	8.3	NA	11	NA	NA	NA	NA		5 Days/Week
Dissolved Oxygen	NA			NA	5.0	NA	NA		5 Days/Week
pH (standard units)	NA			NA	6.0	9.0	9.0		5 Days/Week
E. coli [e] (N/100 ml)	126			NA	NA	NA	NA		1/year

* = UNLESS OTHERWISE NOTED NA = NOT APPLICABLE NL = NO LIMIT, MONITORING REQUIREMENT ONLY.

[a] See Part I.C.1. for additional flow requirements.

[b] See Part I.B for additional chlorine monitoring instructions.

[c] See Parts I.C.7.a. and I.C.7.b. for quantification levels and reporting requirements, respectively.

[d] See Part I.C.8. for additional instructions regarding effluent monitoring frequencies.

[e] Geometric Mean of 4 weekly samples collected in one month, between 10 a.m. and 4 p.m.

The design flow of this treatment facility is 0.0051 MGD.

At least 85 percent removal for BOD5 and 85 percent removal for TSS must be attained for this effluent.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

BASES FOR LIMITATIONS/MONITORING:

PARAMETER	MULTIPLIER OR PRODUCTION	TECHNOLOGY	WATER QUALITY	BEST PROFESSIONAL JUDGMENT
Flow	Design flow (0.0051 MGD)			X
pH	NA	X	X	
BOD5 (mg/l)	Water quality model (monthly avg.) 1.5 x monthly avg. (max. weekly avg.)		X	
BOD5 (kg/day)	Design flow (0.0051 MGD)		X	
TSS (mg/l)	30/45	X		
TSS (kg/day)	Design flow (0.0051 MGD)	X		
Ammonia, chlorine, dissolved oxygen	NA		X	

ATTACHMENT 6

SPECIAL CONDITIONS

VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS

B. ADDITIONAL TOTAL RESIDUAL CHLORINE (TRC) LIMITATIONS AND MONITORING REQUIREMENTS

If chlorine is used as the disinfection method, TRC shall be limited and monitored by the permittee as specified below:

1.
 - a. The permittee shall monitor the TRC at the outlet of the chlorine contact tank, prior to dechlorination, once per day by grab sample.
 - b. No more than 3 of all samples taken at the outlet of the chlorine contact tank, prior to dechlorination, shall be less than 1.5 mg/l (DMR # 157) for any one calendar month.
 - c. No TRC sample collected at the outlet of the chlorine contact tank, prior to dechlorination, shall be less than 0.60 mg/l (DMR # 213).
2. If an alternative to chlorination as a disinfection method is chosen, *E. coli* shall be limited and monitored by the permittee as specified below:

	<u>Discharge Limitations</u>	<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Frequency</u>	<u>Sample Type</u>
<i>E. coli</i> (N/100 ml)	126*	1/week	Grab (Between 10 AM & 4 PM)

The above requirements, if applicable, shall substitute for the TRC requirements delineated in Parts I.A. and I.B.1 above.

* Geometric Mean

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. 95% Design Capacity Notification

A written notice and a **plan of action** for ensuring continued compliance with the terms of this permit shall be submitted to the DEQ Regional Office when the monthly average flow influent to the sewage treatment plant reaches 95 percent of the design capacity authorized in this permit for each month of any three consecutive month period. The written notice shall be submitted within 30 days and the plan of action shall be received at the DEQ Regional Office **no later than 90 days from the third consecutive month for which the flow reached 95 percent of the design capacity**. The plan shall include the necessary steps and a prompt schedule of implementation for controlling any current or reasonably anticipated problem resulting from high influent flows. Failure to submit an adequate plan in a timely manner shall be deemed a violation of this permit.

2. CTC, CTO Requirement

The permittee shall, in accordance with the DEQ Sewage Collection and Treatment Regulation (9VAC25-790), obtain a Certificate to Construct (CTC), and a Certificate to Operate (CTO) from the DEQ Office of Wastewater Engineering (for Water Quality Improvement Funded (WQIF) projects) or submitted by the design engineer and owner to the DEQ regional water permit manager (for non WQIF projects) prior to constructing wastewater treatment works and operating the treatment works, respectively. Non-compliance with the CTC or CTO shall be deemed a violation of the permit.

3. Operation and Maintenance Manual Requirement

The permittee shall review the existing Operations and Maintenance (O & M) Manual and notify the DEQ Regional Office in writing within 90 days of the effective date of this permit whether it is still accurate and complete. If the O & M Manual is no longer accurate and complete, a revised O & M Manual shall be submitted for approval to the DEQ Regional Office within 90 days of the effective date of this permit. The permittee will maintain an accurate, approved operation and maintenance manual for the treatment works. This manual shall detail the practices and procedures which will be followed to ensure compliance with the requirements of the permit. The permittee shall operate the treatment works in accordance with the approved O&M Manual. This manual shall include, but not necessarily be limited to, the following items, as appropriate:

- a. Techniques to be employed in the collection, preservation, and analysis of effluent and sludge samples;
- b. Procedures for measuring and recording the duration and volume of treated wastewater discharged;
- c. Discussion of Best Management Practices, if applicable;
- d. Procedures for handling, storing, and disposing of all wastes, fluids, and pollutants that will prevent these materials from reaching state waters.
- e. Treatment works design, treatment works operation, routine preventative maintenance of units within the treatment system, critical spare parts inventory and record keeping; and,
- f. A plan for the management and/or disposal of waste solids and residues.

Any changes in the practices and procedures followed by the permittee shall be documented and submitted for DEQ Regional staff approval within 90 days of the effective date of the changes. Upon approval of the submitted manual changes, the revised manual becomes an enforceable part of the permit. Noncompliance with the O & M Manual shall be deemed a violation of the permit.

Letter/Revised Manual Due: No later than October 30, 2011

4. Permit Reopeners

- a. Sludge Reopener

The Board may promptly modify or revoke and reissue this permit if any applicable standard for sewage sludge use or disposal promulgated under Section 405(d) of the Clean Water Act is more stringent than any requirements for sludge use or disposal in this permit, or controls a pollutant or practice not limited in this permit.

- b. Total Maximum Daily Load (TMDL) Reopener

This permit shall be modified or, alternatively, revoked and reissued if any approved waste load allocation procedure, pursuant to section 303(d) of the Clean Water Act, imposes waste load allocations, limits or conditions on the facility that are not consistent with the requirements of this permit.

5. Licensed Wastewater Operator Requirement

No licensed wastewater works operator is required at this permitted facility.

6. Reliability Class Requirement

The permitted treatment works shall meet Reliability Class II.

7. Compliance Reporting

- a. The quantification levels (QL) shall be less than or equal to the following concentrations:

<u>Effluent Parameter</u>	<u>Quantification Level</u>
BOD5	5.0 mg/l
TSS	1.0 mg/l
Chlorine	0.10 mg/l
Ammonia	0.20 mg/l

The QL is defined as the lowest concentration used to calibrate a measurement system in accordance with the procedures published for the method. It is the responsibility of the permittee to ensure that proper quality assurance/quality control (QA/QC) protocols are followed during the sampling and analytical procedures. QA/QC information shall be documented to confirm that appropriate analytical procedures have been used and the required QLs have been attained. The permittee shall use any method in accordance with Part II A of this permit.

- b. **Monthly Average** -- Compliance with the monthly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as it is reported. An arithmetic average shall be calculated using all reported data for the month, including the defined zeros. This arithmetic average shall be reported on the Discharge Monitoring Report (DMR) as calculated. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported monthly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the monthly average of the calculated daily quantities.

Weekly Average -- Compliance with the weekly average limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each complete calendar week and entirely contained within the reporting month. The maximum value of the weekly averages thus determined shall be reported on the DMR. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the weekly average shall be reported as "<QL". If reporting for quantity is required on the DMR and the reported weekly average concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported concentration data (including the defined zeros) and flow data for each sample day to determine the daily quantity and report the maximum weekly average of the calculated daily quantities.

Daily Maximum -- Compliance with the daily maximum limitations and/or reporting requirements for the parameters listed in subsection a. of this permit condition shall be determined as follows: All concentration data below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as zero. All concentration data equal to or above the QL used for the analysis (QL must be less than or equal to the QL listed in a. above) shall be treated as reported. An arithmetic average shall be calculated using all reported data, including the defined zeros, collected within each day during the reporting month. The maximum value of these daily averages thus determined shall be reported on the DMR as the Daily Maximum. If all data are below the QL used for the analysis (QL must be less than or equal to the QL listed in a. above), then the maximum value of the daily averages shall be

reported as "<QL". If reporting for quantity is required on the DMR and the reported daily maximum concentration is <QL, then report "<QL" for the quantity. Otherwise use the reported daily average concentrations (including the defined zeros) and corresponding daily flows to determine daily average quantities and report the maximum of the daily average quantities during the reporting month.

Single Datum - Any single datum required shall be reported as "<QL" if it is less than the QL used for the analysis (QL must be less than or equal to the QL listed in a. above). Otherwise the numerical value shall be reported.

- c. **Significant Digits** -- The permittee shall report at least the same number of significant digits as the permit limit for a given parameter. Regardless of the rounding convention used by the permittee (i.e., 5 always rounding up or to the nearest even number), the permittee shall use the convention consistently, and shall ensure that consulting laboratories employed by the permittee use the same convention.

8. Effluent Monitoring Frequencies

If the facility permitted herein is issued a Notice of Violation for any of the parameters listed below, then the following effluent monitoring frequencies shall become effective upon written notice from DEQ and remain in effect until permit expiration date.

<u>Effluent Parameter</u>	<u>Frequency</u>
Ammonia	1/Month
BOD5	1/Month
TSS	1/Month

No other effluent limitations or monitoring requirements are affected by this special condition.

9. Sludge Management Plan

The permittee shall conduct all sewage sludge use or disposal activities in accordance with the Sludge Management Plan (SMP) approved with the issuance of this permit. Any **proposed changes** in the sewage sludge use or disposal practices or procedures followed by the permittee shall be documented and **submitted for Department of Environmental Quality approval 90 days prior to the effective date of the changes**. Upon approval, the revised SMP becomes an enforceable part of the permit. The permit may be modified or, alternatively, revoked and reissued to incorporate limitations or conditions necessitated by substantive changes in sewage sludge use or disposal practices.

10. Closure Plan

If the permittee does not intend to apply for reissuance of this permit or if any part of the facility presently permitted will not be included in a future permit application, an **approvable closure plan** shall be submitted to the DEQ regional office **90 days before the facility is taken out of service**. The closure plan shall include a plan of action and a schedule.

11. Permit Application Requirement

In accordance with Part II. M. of this permit, a new and complete permit application shall be submitted for the reissuance of this permit.

Application Due: No later than February 2nd, 2016

ATTACHMENT 7

EFFLUENT/MONITORING RATIONALE/SUITABLE DATA

THE EFFLUENT LIMITATIONS AND MONITORING RATIONALE ARE BASED ON THE FOLLOWING:

- FLOW -** The design of the facility is 0.0051 million gallons per day (MGD). The flow is estimated in MGD. The monitoring frequency is 5 days per week (to coincide with school operations). This monitoring frequency and sample type are in accordance with guidance for this size facility and should be appropriate for assessment of treatment plant capacity.
- pH -** The limits of 6.0 S.U. (minimum) to 9.0 S.U. (maximum) are based on water quality standards and technology [secondary treatment limits as per Federal effluent guidelines (40 CFR 133)], are carried over from the previous permit, and are protective of water quality. The monitoring frequency is 5 days per week (to coincide with school operations) and the sample type is grab (required for pH). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits and water quality standards.
- BOD₅ -** The limits of 24 mg/l (monthly average) and 36 mg/l (weekly average) were originally based on the old septic tank/sand filter limits and are carried over from the previous permit; however, these limits, in conjunction with the dissolved oxygen limit will comply with water quality standards. The monitoring frequency is once per three months, which is based on a reduced monitoring frequency granted for good plant performance (see below), and the sample type is grab (based on the design flow). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards. The mass limits of 0.46 kg/d (monthly average) and 0.69 kg/d (weekly average) were calculated based on the design flow of 0.0051 MGD.
- TSS -** The limits of 30 mg/l (monthly average) and 45 mg/l (weekly average) comply with secondary treatment requirements and maintain water quality standards. The monitoring frequency is once per three months, which is based on a reduced monitoring frequency granted during the last reissuance for good plant performance. The sample type is grab (based on design flow). This is in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits. The mass limits of 0.58 kg/d (monthly average) and 0.87 kg/d (weekly average) were calculated based on the design flow of 0.0051 MGD.
- DO -** The dissolved oxygen limit of 5.0 mg/l (minimum) is set to protect water quality standards. This level of dissolved oxygen is necessary in order to allow the BOD₅ limit of 24 mg/l. The monitoring frequency is once per day and the sample type is grab (required for dissolved oxygen). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit and water quality standards.
- TRC -** The total residual chlorine limits of 8.3 µg/l and 11 µg/l, monthly average and weekly average, respectively are set to insure compliance with the acute water quality criterion. These limits were reassessed with this reissuance and the current limits remain protective of water quality (antibacksliding). The monitoring frequency is 5 days per week (to coincide with school operations). The sample type is grab (required for chlorine). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limits. All internal monitoring for chlorine, after the chlorine contact tank and prior to dechlorination, is to insure adequate disinfection.
- NH₃-N -** The ammonia-nitrogen limits of 8.4 mg/l (monthly average and weekly average) are set to insure compliance with the acute water quality criterion as this is an intermittent discharge and are continued with this permit. These limits were reassessed with this reissuance and the current limits remain protective of water quality (antibacksliding). The monitoring frequency is once per three months, which is based on a reduced monitoring frequency granted for good plant performance (see below), and the sample type is grab (based on flow). This monitoring frequency and sample type are in accordance with guidance for this size facility and should provide enough data for proper assessment of compliance with the effluent limit.
- E. coli* -** A new *E. coli* monthly average limit of 126 N/100 ml, calculated as a geometric mean, has been added to the permit. Monitoring is to be performed once per year. Monitoring will consist of once a week grab samples.

All samples must be collected within a calendar month. The geometric mean is to be calculated using all data collected during a calendar month with a minimum of four weekly samples. If there are insufficient data to calculate a monthly geometric mean, no more than 10% of the total samples in the calendar month shall exceed 235 cfu/100 ml. These monitoring and calculation requirements are in accordance with 9 VAC 25-260-170 of the Virginia Water Quality Standards. Previously DEQ has allowed the use chlorine disinfection monitoring requirements as a surrogate for *E. coli* monitoring. However, EPA has questioned the adequacy of the use of surrogate parameters for demonstrating compliance with TMDL wasteload allocations. Consequently, VPDES Permit Manual (Rev. 1/27/2010) Section MN-3 B.2 requires *E. coli* limits in permits with TMDL *E. coli* allocations. The new *E. coli* limit is required to demonstrate compliance with the bacteria wasteload allocation assigned to the facility in the Banister River Bacteria TMDL (excerpted in Appendix 9). Compliance with the new *E. coli* limit of 126 cfu/100 ml and Part I.C.1 – 95% Capacity Reopener ensures compliance with the bacteria TMDL wasteload allocation of 1.22E+8 cfu/day or 4.44E+10 cfu/year.

Evaluation for Reduced Monitoring Due to Exemplary Facility Operations

In accordance with the VPDES permit manual, facility's having exemplary operations that consistently meet permit requirements are eligible for reduced permit monitoring. With this reissuance, an evaluation was completed to determine if the facility was eligible. Two factors are evaluated for eligibility. The first is "Did the facility receive any form of compliance warning or notice of violation?"; the second is based on effluent quality. Therefore, they do meet the criteria.

BOD₅

Since the pollutant was 47% of the allowable levels, monitoring may be reduced from the current 1/month requirement to 1/3 months. For a facility of this size and discharge volume, normal monitoring would be 1/month for this parameter. Should the compliance status change for this facility, a condition has been added to resume unreduced monitoring in accordance with the VPDES Manual.

TSS

Reduced monitoring has been previously granted for TSS (from 1/month to 1/3 months) and is carried forward with this reissuance.

NH₃

Since the pollutant was 31% of the allowable levels, monitoring may be reduced from the current 1/month requirement to 1/3 months. For a facility of this size and discharge volume, normal monitoring would be 1/month for this parameter. Should the compliance status change for this facility, a condition has been added to resume unreduced monitoring in accordance with the VPDES Manual.

Date	pH(max)	Date	Eff Temp Jan	Date	Eff Temp Sept
May-09	7.6	1/6/2009	12.2	9/1/2009	26.3
Mar-09	7.6	1/7/2009	12.6	9/2/2009	25.8
Apr-09	7.6	1/8/2009	10.2	9/3/2009	25
Feb-09	7.6	1/9/2009	8.2	9/7/2009	24.8
Jan-09	7.6	1/12/2009	8.6	9/8/2009	24
Dec-08	7.6	1/13/2009	7.9	9/9/2009	24.6
Nov-08	7.6	1/14/2009	7.8	9/10/2009	25
Oct-08	7.7	1/15/2009	8.8	9/13/2009	25
Sep-08	7.7	1/21/2009	9.1	9/14/2009	24.8
Aug-08	-	1/22/2009	10.2	9/15/2009	23.1
Jul-08	-	1/23/2009	10.4	9/16/2009	23.9
Jun-08	-	1/26/2009	11.4	9/17/2009	24.6
May-08	7.7	1/27/2009	10.4	9/20/2009	25.8
Apr-08	7.7	1/28/2009	11.6	9/21/2009	23.8
Mar-08	7.7	1/29/2009	10.4	9/22/2009	22.8
Feb-08	7.7	1/30/2009	10	9/23/2009	23.6
Jan-08	7.6			9/24/2009	24.8
Dec-07	7.8			9/27/2009	23.9
Nov-07	7.6			9/28/2009	22.8
Oct-07	7.7			9/29/2009	22.6
Sep-07	7.8			9/30/2009	21.9
Aug-07	7.5				
Jul-07	-				
Jun-07	7.7				
May-07	7.7				
Apr-07	7.7				
Mar-07	7.7				
Feb-07	7.7				
Jan-07	7.7				
Dec-06	7.7				
Nov-06	7.6				
Oct-06	7.7				
Sep-06	7.8				
Aug-06	7.8				

DAILY pH

9/1/2006	7.5
9/5/2006	7.5
9/6/2006	7.6
9/7/2006	7.6
9/8/2006	7.5
9/11/2006	7.5
9/12/2006	7.2
9/13/2006	7.5
9/14/2006	7.4
9/18/2006	7.5
9/19/2006	7.6
9/20/2006	7.4
9/21/2006	7.6
9/22/2006	7.4
9/25/2006	7.4
9/26/2006	7.7
9/27/2006	7.8
9/28/2006	7.6
9/29/2006	7.7
10/2/2006	7.5
10/3/2006	7.6
10/4/2006	7.7
10/5/2006	7.6
10/6/2006	7.2
10/9/2006	7.5
10/10/2006	7.5
10/11/2006	7.4
10/12/2006	7.3
10/13/2006	7.5
10/16/2006	7.5
10/17/2006	7.4
10/18/2006	7.6
10/19/2006	7.5
10/20/2006	7.6
10/23/2006	7.6
10/24/2006	7.6
10/25/2006	7.5
10/26/2006	7.4
10/27/2006	7.2
10/30/2006	7.5
10/31/2006	7.6
11/1/2006	7.4
11/2/2006	7.6
11/3/2006	7.5
11/6/2006	7.5
11/7/2006	7.5

Annual Temp

12.2
12.6
10.2
8.2
8.6
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21.9

11/8/2006	7.6
11/9/2006	7.5
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11/13/2006	7.4
11/14/2006	7.6
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11/22/2006	7.4
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11/24/2008	7.5
11/25/2008	7.6
11/26/2008	7.5
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12/2/2008	7.5
12/3/2008	7.1
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12/5/2008	7.3
12/8/2008	7.4
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12/18/2008	7.4
12/19/2008	7.5
1/6/2009	7.4
1/7/2009	7.5
1/8/2009	7.5
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2/18/2009	7.4
2/19/2008	7.5
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2/24/2009	7.4
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2/26/2009	7.4
2/27/2009	7.3
3/5/2009	7.5
3/6/2009	7.4
3/9/2009	7.5
3/10/2009	7.5
3/11/2009	7.6
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3/13/2009	7.5
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2/17/2011	7.6
2/18/2011	7.5
2/22/2011	7.7
2/23/2011	7.5
2/24/2011	7.4
2/25/2011	7.5
2/28/2011	7.5
3/1/2011	7.6
3/2/2011	7.7
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3/4/2011	7.5
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3/10/2011	7.5
3/11/2011	7.5
3/14/2011	7.5
3/15/2011	7.6
3/16/2011	7.4
3/17/2011	7.5
3/18/2011	7.5
3/28/2011	7.6
3/29/2011	7.5
3/30/2011	7.5
3/31/2011	7.6

90 Percentile pH	10 Percentile pH	Aveg pH	
7.8		7.6	7.7

90 Percentile Temp Wet	10 Percentile Temp Wet	Aveg Temp Wet	
11.9		8.05	10.0

90 Percentile Temp Dry	10 Percentile Temp Dry	Aveg Temp Dry	
25.8		22.8	24.2

90 Percentile Annual Temp	
25	

Including daily pH			
90 Percentile pH	10 Percentile pH	Aveg pH	
7.6		7.4	7.5

FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: Sydnor Jennings Elementary School

Permit No.: VA0022730

Receiving Stream: UT to Bradley Creek

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information

Mean Hardness (as CaCO₃) = 19.7 mg/L
 90% Temperature (Annual) = 24.4 deg C
 90% Temperature (Wet season) = 23.7 deg C
 90% Maximum pH = 7.4 SU
 10% Maximum pH = 6.5 SU
 Tier Designation (1 or 2) = 1
 Public Water Supply (PWS) Y/N? = Y
 Trout Present Y/N? = n
 Early Life Stages Present Y/N? = y

Stream Flows

1Q10 (Annual) = 0 MGD
 7Q10 (Annual) = 0 MGD
 30Q10 (Annual) = 0 MGD
 1Q10 (Wet season) = 0 MGD
 30Q10 (Wet season) = 0 MGD
 30Q5 = 0 MGD
 Harmonic Mean = 0 MGD

Mixing Information

Annual - 1Q10 Mix = 100 %
 - 7Q10 Mix = 100 %
 - 30Q10 Mix = 100 %
 Wet Season - 1Q10 Mix = 100 %
 - 30Q10 Mix = 100 %

Effluent Information

Mean Hardness (as CaCO₃) = 25 mg/L
 90% Temp (Annual) = 25 deg C
 90% Temp (Wet season) = 11.9 deg C
 90% Maximum pH = 7.6 SU
 10% Maximum pH = 7.4 SU
 Discharge Flow = 0.0051 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Acenaphthene	0	-	-	6.7E+02	-	-	6.7E+02	-	-	-	-	-	-	-	6.7E+02	9.9E+02
Acrolein	0	-	-	6.1E+00	-	-	6.1E+00	-	-	-	-	-	-	-	6.1E+00	9.3E+00
Acrylonitrile ^c	0	-	-	5.1E+01	-	-	5.1E+01	-	-	-	-	-	-	-	5.1E+01	2.5E+00
Aldrin ^c	0	3.0E+00	-	4.9E+04	3.0E+00	-	4.9E+04	5.0E+04	-	-	-	-	-	3.0E+00	4.9E+04	5.0E+04
Ammonia-N (mg/l) (Yearly)	0	1.70E+01	2.02E+00	-	1.7E+01	2.0E+00	-	-	-	-	-	-	-	1.7E+01	2.0E+00	-
Ammonia-N (mg/l) (High Flow)	0	1.70E+01	3.98E+00	-	1.7E+01	4.0E+00	-	-	-	-	-	-	-	1.7E+01	4.0E+00	-
Anthracene	0	-	-	8.3E+03	-	-	8.3E+03	4.0E+04	-	-	-	-	-	-	8.3E+03	4.0E+04
Antimony	0	-	-	5.6E+00	-	-	5.6E+00	6.4E+02	-	-	-	-	-	-	5.6E+00	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	1.0E+01	3.4E+02	1.5E+02	1.0E+01	-	-	-	-	-	-	3.4E+02	1.5E+02	-
Barium	0	-	-	2.0E+03	-	-	2.0E+03	-	-	-	-	-	-	-	2.0E+03	-
Benzene ^c	0	-	-	2.2E+01	-	-	2.2E+01	5.1E+02	-	-	-	-	-	-	2.2E+01	5.1E+02
Benzidine ^c	0	-	-	8.6E+04	-	-	8.6E+04	2.0E+03	-	-	-	-	-	-	8.6E+04	2.0E+03
Benzo (a) anthracene ^c	0	-	-	3.8E+02	-	-	3.8E+02	1.8E+01	-	-	-	-	-	-	3.8E+02	1.8E+01
Benzo (b) fluoranthene ^c	0	-	-	3.8E+02	-	-	3.8E+02	1.8E+01	-	-	-	-	-	-	3.8E+02	1.8E+01
Benzo (k) fluoranthene ^c	0	-	-	3.8E+02	-	-	3.8E+02	1.8E+01	-	-	-	-	-	-	3.8E+02	1.8E+01
Benzo (a) pyrene ^c	0	-	-	3.8E+02	-	-	3.8E+02	1.8E+01	-	-	-	-	-	-	3.8E+02	1.8E+01
Bis(2-Chloroethyl) Ether ^c	0	-	-	3.0E+01	-	-	3.0E+01	5.3E+00	-	-	-	-	-	-	3.0E+01	5.3E+00
Bis(2-Chloroisopropyl) Ether ^c	0	-	-	1.4E+03	-	-	1.4E+03	6.5E+04	-	-	-	-	-	-	1.4E+03	6.5E+04
Bis 2-Ethylhexyl Phthalate ^c	0	-	-	1.2E+01	-	-	1.2E+01	2.2E+01	-	-	-	-	-	-	1.2E+01	2.2E+01
Bromofom ^c	0	-	-	4.3E+01	-	-	4.3E+01	1.4E+03	-	-	-	-	-	-	4.3E+01	1.4E+03
Butylbenzylphthalate	0	-	-	1.5E+03	-	-	1.5E+03	1.9E+03	-	-	-	-	-	-	1.5E+03	1.9E+03
Cadmium	0	8.2E-01	3.8E-01	5.0E+00	8.2E-01	3.8E-01	5.0E+00	-	-	-	-	-	-	8.2E-01	3.8E-01	-
Carbon Tetrachloride ^c	0	-	-	2.3E+00	-	-	2.3E+00	1.6E+01	-	-	-	-	-	-	2.3E+00	1.6E+01
Chlordane ^c	0	2.4E+00	4.3E-03	8.0E-03	2.4E+00	4.3E-03	8.0E-03	8.1E-03	-	-	-	-	-	2.4E+00	4.3E-03	8.1E-03
Chloride	0	8.6E+05	2.3E+05	2.5E+05	8.6E+05	2.3E+05	2.5E+05	-	-	-	-	-	-	8.6E+05	2.3E+05	-
TRC	0	1.9E+01	1.1E+01	-	1.9E+01	1.1E+01	-	-	-	-	-	-	-	1.9E+01	1.1E+01	-
Chlorobenzene	0	-	-	1.3E+02	-	-	1.3E+02	1.6E+03	-	-	-	-	-	-	1.3E+02	1.6E+03

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorobromomethane ^c	0	-	-	4.0E+00	1.3E+02	-	-	4.0E+00	1.3E+02	-	-	-	-	-	-	-	-	-	-	4.0E+00	1.3E+02
Chloroform	0	-	-	3.4E+02	1.1E+04	-	-	3.4E+02	1.1E+04	-	-	-	-	-	-	-	-	-	-	3.4E+02	1.1E+04
2-Chloronaphthalene	0	-	-	1.0E+03	1.6E+03	-	-	1.0E+03	1.6E+03	-	-	-	-	-	-	-	-	-	-	1.0E+03	1.6E+03
2-Chlorophenol	0	-	-	8.1E+01	1.5E+02	-	-	8.1E+01	1.5E+02	-	-	-	-	-	-	-	-	-	-	8.1E+01	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	-	-	8.3E-02	4.1E-02	-	-	8.3E-02	4.1E-02	-	-	8.3E-02	4.1E-02	-	-	8.3E-02	4.1E-02	-	-
Chromium III	0	1.8E+02	2.4E+01	-	-	1.8E+02	2.4E+01	-	-	1.8E+02	2.4E+01	-	-	1.8E+02	2.4E+01	-	-	1.8E+02	2.4E+01	-	-
Chromium VI	0	1.6E+01	1.1E+01	-	-	1.6E+01	1.1E+01	-	-	1.6E+01	1.1E+01	-	-	1.6E+01	1.1E+01	-	-	1.6E+01	1.1E+01	-	-
Chromium, Total	0	-	-	1.0E+02	-	-	-	1.0E+02	-	-	-	-	-	-	-	-	-	-	-	1.0E+02	-
Chrysene ^c	0	-	-	3.8E-03	1.8E-02	-	-	3.8E-03	1.8E-02	-	-	-	-	-	-	-	-	-	-	3.8E-03	1.8E-02
Copper	0	3.6E+00	2.7E+00	1.3E+03	-	3.6E+00	2.7E+00	1.3E+03	-	-	-	-	-	3.6E+00	2.7E+00	1.3E+03	-	3.6E+00	2.7E+00	1.3E+03	-
Cyanide, Free	0	2.2E+01	5.2E+00	1.4E+02	1.6E+04	2.2E+01	5.2E+00	1.4E+02	1.6E+04	-	-	-	-	2.2E+01	5.2E+00	1.4E+02	1.6E+04	2.2E+01	5.2E+00	1.4E+02	1.6E+04
DDD ^c	0	-	-	3.1E-03	3.1E-03	-	-	3.1E-03	3.1E-03	-	-	-	-	-	-	-	-	-	-	3.1E-03	3.1E-03
DDE ^c	0	-	-	2.2E-03	2.2E-03	-	-	2.2E-03	2.2E-03	-	-	-	-	-	-	-	-	-	-	2.2E-03	2.2E-03
DDT ^c	0	1.1E+00	1.0E-03	2.2E-03	2.2E-03	1.1E+00	1.0E-03	2.2E-03	2.2E-03	-	-	-	-	1.1E+00	1.0E-03	2.2E-03	2.2E-03	1.1E+00	1.0E-03	2.2E-03	2.2E-03
Demeton	0	-	1.0E-01	-	-	-	1.0E-01	-	-	-	-	-	-	-	-	-	-	-	-	1.0E-01	-
Diazinon	0	1.7E-01	1.7E-01	-	-	1.7E-01	1.7E-01	-	-	-	-	-	-	1.7E-01	1.7E-01	-	-	1.7E-01	1.7E-01	-	-
Dibenz(a,h)anthracene ^c	0	-	-	3.8E-02	1.8E-01	-	-	3.8E-02	1.8E-01	-	-	-	-	-	-	-	-	-	-	3.8E-02	1.8E-01
1,2-Dichlorobenzene	0	-	-	4.2E-02	1.3E+03	-	-	4.2E-02	1.3E+03	-	-	-	-	-	-	-	-	-	-	4.2E-02	1.3E+03
1,3-Dichlorobenzene	0	-	-	3.2E+02	9.6E+02	-	-	3.2E+02	9.6E+02	-	-	-	-	-	-	-	-	-	-	3.2E+02	9.6E+02
1,4-Dichlorobenzene	0	-	-	6.3E+01	1.9E+02	-	-	6.3E+01	1.9E+02	-	-	-	-	-	-	-	-	-	-	6.3E+01	1.9E+02
3,3-Dichlorobenzidine ^c	0	-	-	2.1E-01	2.8E-01	-	-	2.1E-01	2.8E-01	-	-	-	-	-	-	-	-	-	-	2.1E-01	2.8E-01
Dichlorobromomethane ^c	0	-	-	5.5E+00	1.7E+02	-	-	5.5E+00	1.7E+02	-	-	-	-	-	-	-	-	-	-	5.5E+00	1.7E+02
1,2-Dichloroethane ^c	0	-	-	3.8E+00	3.7E+02	-	-	3.8E+00	3.7E+02	-	-	-	-	-	-	-	-	-	-	3.8E+00	3.7E+02
1,1-Dichloroethylene	0	-	-	3.9E+02	7.1E+03	-	-	3.9E+02	7.1E+03	-	-	-	-	-	-	-	-	-	-	3.9E+02	7.1E+03
1,2-trans-dichloroethylene	0	-	-	1.4E+02	1.0E+04	-	-	1.4E+02	1.0E+04	-	-	-	-	-	-	-	-	-	-	1.4E+02	1.0E+04
2,4-Dichlorophenol	0	-	-	7.7E+01	2.9E+02	-	-	7.7E+01	2.9E+02	-	-	-	-	-	-	-	-	-	-	7.7E+01	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	-	-	1.0E+02	-	-	-	1.0E+02	-	-	-	-	-	-	-	-	-	-	-	1.0E+02	-
1,2-Dichloropropane ^c	0	-	-	5.0E+00	1.5E+02	-	-	5.0E+00	1.5E+02	-	-	-	-	-	-	-	-	-	-	5.0E+00	1.5E+02
1,3-Dichloropropene ^c	0	-	-	3.4E+00	2.1E+02	-	-	3.4E+00	2.1E+02	-	-	-	-	-	-	-	-	-	-	3.4E+00	2.1E+02
Dieldrin ^c	0	2.4E-01	5.6E-02	5.2E-04	5.4E-04	2.4E-01	5.6E-02	5.2E-04	5.4E-04	-	-	-	-	2.4E-01	5.6E-02	5.2E-04	5.4E-04	2.4E-01	5.6E-02	5.2E-04	5.4E-04
Diethyl Phthalate	0	-	-	1.7E+04	4.4E+04	-	-	1.7E+04	4.4E+04	-	-	-	-	-	-	-	-	-	-	1.7E+04	4.4E+04
2,4-Dimethylphenol	0	-	-	3.8E+02	8.5E+02	-	-	3.8E+02	8.5E+02	-	-	-	-	-	-	-	-	-	-	3.8E+02	8.5E+02
Dimethyl Phthalate	0	-	-	2.7E+05	1.1E+06	-	-	2.7E+05	1.1E+06	-	-	-	-	-	-	-	-	-	-	2.7E+05	1.1E+06
Di-n-Butyl Phthalate	0	-	-	2.0E+03	4.5E+03	-	-	2.0E+03	4.5E+03	-	-	-	-	-	-	-	-	-	-	2.0E+03	4.5E+03
2,4-Dinitrophenol	0	-	-	6.9E+01	5.3E+03	-	-	6.9E+01	5.3E+03	-	-	-	-	-	-	-	-	-	-	6.9E+01	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	-	-	1.3E+01	2.8E+02	-	-	1.3E+01	2.8E+02	-	-	-	-	-	-	-	-	-	-	1.3E+01	2.8E+02
2,4-Dinitrotoluene ^c	0	-	-	1.1E+00	3.4E+01	-	-	1.1E+00	3.4E+01	-	-	-	-	-	-	-	-	-	-	1.1E+00	3.4E+01
Dioxin 2,3,7,8- tetrachlorodibenzo-p-dioxin	0	-	-	5.0E-08	5.1E-08	-	-	5.0E-08	5.1E-08	-	-	-	-	-	-	-	-	-	-	5.0E-08	5.1E-08
1,2-Diphenylhydrazine ^c	0	-	-	3.6E-01	2.0E+00	-	-	3.6E-01	2.0E+00	-	-	-	-	-	-	-	-	-	-	3.6E-01	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	6.2E+01	8.9E+01	2.2E-01	5.6E-02	6.2E+01	8.9E+01	-	-	-	-	2.2E-01	5.6E-02	6.2E+01	8.9E+01	2.2E-01	5.6E-02	6.2E+01	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	6.2E+01	8.9E+01	2.2E-01	5.6E-02	6.2E+01	8.9E+01	-	-	-	-	2.2E-01	5.6E-02	6.2E+01	8.9E+01	2.2E-01	5.6E-02	6.2E+01	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	-	-	2.2E-01	5.6E-02	-	-	-	-	-	-	2.2E-01	5.6E-02	-	-	2.2E-01	5.6E-02	-	-
Endosulfan Sulfate	0	-	-	6.2E+01	8.9E+01	-	-	6.2E+01	8.9E+01	-	-	-	-	-	-	-	-	-	-	6.2E+01	8.9E+01
Endrin	0	8.6E-02	3.6E-02	5.9E-02	6.0E-02	8.6E-02	3.6E-02	5.9E-02	6.0E-02	-	-	-	-	8.6E-02	3.6E-02	5.9E-02	6.0E-02	8.6E-02	3.6E-02	5.9E-02	6.0E-02
Endrin Aldehyde	0	-	-	2.9E-01	3.0E-01	-	-	2.9E-01	3.0E-01	-	-	-	-	-	-	-	-	-	-	2.9E-01	3.0E-01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)
Ethylbenzene	0	-	-	5.3E+02	2.1E+03	-	-	5.3E+02	2.1E+03	-	-	-	-	-	-	5.3E+02
Fluoranthene	0	-	-	1.3E+02	1.4E+02	-	-	1.3E+02	1.4E+02	-	-	-	-	-	-	1.3E+02
Fluorene	0	-	-	1.1E+03	5.3E+03	-	-	1.1E+03	5.3E+03	-	-	-	-	-	-	1.1E+03
Foaming Agents	0	-	-	5.0E+02	-	-	-	5.0E+02	-	-	-	-	-	-	-	5.0E+02
Guthion	0	-	1.0E-02	-	-	-	-	1.0E-02	-	-	-	-	-	-	1.0E-02	-
Heptachlor ^c	0	5.2E-01	3.8E-03	7.9E-04	7.9E-04	5.2E-01	3.8E-03	7.9E-04	7.9E-04	-	-	-	-	5.2E-01	3.8E-03	7.9E-04
Heptachlor Epoxide ^c	0	5.2E-01	3.8E-03	3.9E-04	3.9E-04	5.2E-01	3.8E-03	3.9E-04	3.9E-04	-	-	-	-	5.2E-01	3.8E-03	3.9E-04
Hexachlorobenzene ^c	0	-	-	2.8E-03	2.9E-03	-	-	2.8E-03	2.9E-03	-	-	-	-	-	-	2.8E-03
Hexachlorobutadiene ^c	0	-	-	4.4E+00	1.8E+02	-	-	4.4E+00	1.8E+02	-	-	-	-	-	-	4.4E+00
Hexachlorocyclohexane	0	-	-	2.6E-02	4.9E-02	-	-	2.6E-02	4.9E-02	-	-	-	-	-	-	2.6E-02
Alpha-BHC ^c	0	-	-	9.1E-02	1.7E-01	-	-	9.1E-02	1.7E-01	-	-	-	-	-	-	9.1E-02
Hexachlorocyclohexane	0	-	-	9.8E-01	1.8E+00	-	-	9.8E-01	1.8E+00	-	-	-	-	-	-	9.8E-01
Beta-BHC ^c	0	-	-	4.0E-01	1.1E+03	-	-	4.0E-01	1.1E+03	-	-	-	-	-	-	4.0E-01
Hexachlorocyclohexane	0	-	-	1.4E+01	3.3E+01	-	-	1.4E+01	3.3E+01	-	-	-	-	-	-	1.4E+01
Gamma-BHC ^c (Lindane)	0	-	-	2.0E+00	-	-	-	2.0E+00	-	-	-	-	-	-	2.0E+00	-
Hexachlorocyclopentadiene	0	-	-	3.8E-02	1.8E-01	-	-	3.8E-02	1.8E-01	-	-	-	-	-	-	3.8E-02
Hexachloroethane ^c	0	-	-	3.0E+02	-	-	-	3.0E+02	-	-	-	-	-	-	-	3.0E+02
Hydrogen Sulfide	0	-	-	3.5E+02	9.6E+03	-	-	3.5E+02	9.6E+03	-	-	-	-	-	-	3.5E+02
Indeno (1,2,3-cd) pyrene ^c	0	-	-	0.0E+00	-	-	-	0.0E+00	-	-	-	-	-	-	-	0.0E+00
Iron	0	2.0E+01	2.3E+00	1.5E+01	-	2.0E+01	2.3E+00	1.5E+01	-	-	-	-	-	2.0E+01	2.3E+00	1.5E+01
Isophorone ^c	0	-	-	1.0E-01	-	-	-	1.0E-01	-	-	-	-	-	-	-	1.0E-01
Kepon ^c	0	-	-	5.0E+01	-	-	-	5.0E+01	-	-	-	-	-	-	-	5.0E+01
Lead	0	-	-	7.7E-01	-	-	-	7.7E-01	-	-	-	-	-	-	-	7.7E-01
Malathion	0	-	-	4.7E+01	1.5E+03	-	-	4.7E+01	1.5E+03	-	-	-	-	-	-	4.7E+01
Manganese	0	-	-	4.6E+01	5.9E+03	-	-	4.6E+01	5.9E+03	-	-	-	-	-	-	4.6E+01
Mercury	0	-	-	1.0E+02	-	-	-	1.0E+02	-	-	-	-	-	-	-	1.0E+02
Methyl Bromide	0	-	-	0.0E+00	-	-	-	0.0E+00	-	-	-	-	-	-	-	0.0E+00
Methylene Chloride ^c	0	-	-	6.1E+02	4.6E+03	-	-	6.1E+02	4.6E+03	-	-	-	-	-	-	6.1E+02
Methoxychlor	0	-	-	1.0E+04	-	-	-	1.0E+04	-	-	-	-	-	-	-	1.0E+04
Mirex	0	-	-	1.7E+01	6.9E+02	-	-	1.7E+01	6.9E+02	-	-	-	-	-	-	1.7E+01
Nickel	0	-	-	6.9E-03	3.0E+01	-	-	6.9E-03	3.0E+01	-	-	-	-	-	-	6.9E-03
Nitrate (as N)	0	-	-	3.3E+01	6.0E+01	-	-	3.3E+01	6.0E+01	-	-	-	-	-	-	3.3E+01
Nitrobenzene	0	-	-	5.0E-02	5.1E+00	-	-	5.0E-02	5.1E+00	-	-	-	-	-	-	5.0E-02
N-Nitrosodimethylamine ^c	0	-	-	6.6E+00	-	-	-	6.6E+00	-	-	-	-	-	-	-	6.6E+00
N-Nitrosodiphenylamine ^c	0	-	-	1.3E-02	-	-	-	1.3E-02	-	-	-	-	-	-	-	1.3E-02
N-Nitrosodi-n-propylamine ^c	0	-	-	6.4E-04	6.4E-04	-	-	6.4E-04	6.4E-04	-	-	-	-	-	-	6.4E-04
Nonylphenol	0	-	-	1.4E-02	3.0E+01	-	-	1.4E-02	3.0E+01	-	-	-	-	-	-	1.4E-02
Parathion	0	-	-	2.7E+00	8.6E+05	-	-	2.7E+00	8.6E+05	-	-	-	-	-	-	2.7E+00
PCB Total ^c	0	-	-	1.0E+01	1.0E+01	-	-	1.0E+01	1.0E+01	-	-	-	-	-	-	1.0E+01
Pentachlorophenol ^c	0	-	-	8.3E+02	4.0E+03	-	-	8.3E+02	4.0E+03	-	-	-	-	-	-	8.3E+02
Phenol	0	-	-	1.5E+01	-	-	-	1.5E+01	-	-	-	-	-	-	-	1.5E+01
Pyrene	0	-	-	4.0E+00	4.0E+00	-	-	4.0E+00	4.0E+00	-	-	-	-	-	-	4.0E+00
Radionuclides	0	-	-	5.0E+00	-	-	-	5.0E+00	-	-	-	-	-	-	-	5.0E+00
Gross Alpha Activity (pCi/L)	0	-	-	3.0E+01	-	-	-	3.0E+01	-	-	-	-	-	-	-	3.0E+01
Beta and Photon Activity (mrem/yr)	0	-	-	4.0E+00	4.0E+00	-	-	4.0E+00	4.0E+00	-	-	-	-	-	-	4.0E+00
Radium 226 + 228 (pCi/L)	0	-	-	5.0E+00	-	-	-	5.0E+00	-	-	-	-	-	-	-	5.0E+00
Uranium (ug/l)	0	-	-	3.0E+01	-	-	-	3.0E+01	-	-	-	-	-	-	-	3.0E+01

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria			Wasteload Allocations			Antidegradation Baseline			Antidegradation Allocations			Most Limiting Allocations		
		Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	1.7E+02	4.2E+03	2.0E+01	5.0E+00	1.7E+02	4.2E+03	2.0E+01	5.0E+00	1.7E+02	4.2E+03	2.0E+01	5.0E+00	1.7E+02
Silver	0	3.2E-01	-	-	-	3.2E-01	-	-	-	-	-	-	-	3.2E-01	-	-
Sulfate	0	-	-	2.5E+05	-	-	2.5E+05	-	-	-	-	-	-	-	2.5E+05	-
1,1,2,2-Tetrachloroethane ^c	0	-	-	1.7E+00	4.0E+01	-	-	1.7E+00	4.0E+01	-	-	-	-	-	1.7E+00	4.0E+01
Tetrachloroethylene ^c	0	-	-	6.9E+00	3.3E+01	-	-	6.9E+00	3.3E+01	-	-	-	-	-	6.9E+00	3.3E+01
Thallium	0	-	-	2.4E-01	4.7E-01	-	-	2.4E-01	4.7E-01	-	-	-	-	-	2.4E-01	4.7E-01
Toluene	0	-	-	5.1E+02	6.0E+03	-	-	5.1E+02	6.0E+03	-	-	-	-	-	5.1E+02	6.0E+03
Total dissolved solids	0	-	-	5.0E+05	-	-	5.0E+05	-	-	-	-	-	-	-	5.0E+05	-
Toxaphene ^c	0	7.3E-01	2.0E-04	2.8E-03	2.8E-03	7.3E-01	2.0E-04	2.8E-03	2.8E-03	7.3E-01	2.0E-04	2.8E-03	2.8E-03	7.3E-01	2.0E-04	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	-	-	4.6E-01	7.2E-02	-	-	-	-	-	-	4.6E-01	7.2E-02	-
1,2,4-Trichlorobenzene	0	-	-	3.9E+01	7.0E+01	-	-	3.9E+01	7.0E+01	-	-	-	-	-	3.9E+01	7.0E+01
1,1,2-Trichloroethane ^c	0	-	-	5.9E+00	1.6E+02	-	-	5.9E+00	1.6E+02	-	-	-	-	-	5.9E+00	1.6E+02
Trichloroethylene ^c	0	-	-	2.5E+01	3.0E+02	-	-	2.5E+01	3.0E+02	-	-	-	-	-	2.5E+01	3.0E+02
2,4,6-Trichlorophenol ^c	0	-	-	1.4E+01	2.4E+01	-	-	1.4E+01	2.4E+01	-	-	-	-	-	1.4E+01	2.4E+01
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	-	-	5.0E+01	-	-	5.0E+01	-	-	-	-	-	-	-	5.0E+01	-
Vinyl Chloride ^c	0	-	-	2.5E-01	2.4E+01	-	-	2.5E-01	2.4E+01	-	-	-	-	-	2.5E-01	2.4E+01
Zinc	0	3.6E+01	3.6E+01	7.4E+03	2.6E+04	3.6E+01	3.6E+01	7.4E+03	2.6E+04	3.6E+01	3.6E+01	7.4E+03	2.6E+04	3.6E+01	3.6E+01	7.4E+03

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipals
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.
Antidegradation WLAs are based upon a complete mix.
Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 3Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Note: do not use QL's lower than the minimum QL's provided in agency guidance

Metal	Target Value (SSTV)
Antimony	5.6E+00
Arsenic	1.0E+01
Barium	2.0E+03
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	6.4E+00
Copper	1.5E+00
Iron	3.0E+02
Lead	1.4E+00
Manganese	5.0E+01
Mercury	4.6E-01
Nickel	3.8E+00
Selenium	3.0E+00
Silver	1.3E-01
Zinc	1.4E+01

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Facility = Sydnor Jennings ES
Chemical = ammonia
Chronic averaging period = 30
WLAa = 17
WLAc =
Q.L. = 0.2
samples/mo. = 1
samples/wk. = 1

Summary of Statistics:

observations = 1
Expected Value = 9
Variance = 29.16
C.V. = 0.6
97th percentile daily values = 21.9007
97th percentile 4 day average = 14.9741
97th percentile 30 day average = 10.8544
< Q.L. = 0
Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity
Maximum Daily Limit = 17
Average Weekly limit = 17
Average Monthly Limit = 17

The data are:

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Facility = Sydnor jennings ES

Chemical = chlorine

Chronic averaging period = 4

WLAa = 19

WLAc =

Q.L. = 100

samples/mo. = 30

samples/wk. = 7

Summary of Statistics:

observations = 1

Expected Value = 1500

Variance = 810000

C.V. = 0.6

97th percentile daily values = 3650.12

97th percentile 4 day average = 2495.68

97th percentile 30 day average = 1809.07

< Q.L. = 0

Model used = BPJ Assumptions, type 2 data

A limit is needed based on Acute Toxicity

Maximum Daily Limit = 19

Average Weekly limit = 11.6034369282886

Average Monthly Limit = 9.41680211348591

The data are:

1500

ATTACHMENT 8

SPECIAL CONDITIONS RATIONALE

**VPDES PERMIT PROGRAM
LIST OF SPECIAL CONDITIONS RATIONALE**

B. ADDITIONAL TOTAL RESIDUAL CHLORINE (TRC) LIMITATIONS AND MONITORING REQUIREMENTS

Rationale: Required by Sewage Collection and Treatment Regulations, 9VAC25-790. Also, 40 CFR 122.41(e) requires the permittee, at all times, to properly operate and maintain all facilities and systems of treatment in order to comply with the permit. This ensures proper operation of chlorination equipment to maintain adequate disinfection.

C. OTHER REQUIREMENTS OR SPECIAL CONDITIONS

1. 95% Design Capacity Notification

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-200 B 4 for all POTW and PVOTW permits.

2. Certificate to Construct (CTC) and Certificate to Operate (CTO) Requirements

Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790.

3. Operations & Maintenance (O&M) Manual Requirements

Rationale: Required by Code of Virginia § 62.1-44.19; Sewage Collection and Treatment Regulations, 9 VAC 25-790; VPDES Permit Regulation, 9VAC25-31-190 E.

4. Permit Reopeners

a. Sludge Reopener

Rationale: Required by VPDES Permit Regulation, 9VAC25-31-220 C for all permits issued to treatment works treating domestic sewage.

b. Total Maximum Daily Load (TMDL) Reopener

Rationale: Section 303(d) of the Clean Water Act requires that total maximum daily loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The re-opener recognizes that, according to section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan, or other wasteload allocation prepared under section 303 of the Act.

5. Licensed Wastewater Operator Requirement

Rationale: The VPDES Permit Regulation, 9VAC25-31-200 C and the Code of Virginia § 54.1-2300 et seq, Rules and Regulations for Waterworks and Wastewater Works Operators (18VAC160-20-10 et seq.), require licensure of operators.

6. Reliability Class

Rationale: Required by Sewage Collection and Treatment Regulations, 9VAC25-790 for all municipal facilities.

7. Compliance Reporting

Rationale: Authorized by the VPDES Permit Regulation, 9 VAC 25-31-190 J.4. and 220 I. This condition is necessary when pollutants are monitored by the permittee and a maximum level of quantification and/or a specific analytical method is required in order to assess compliance with a permit limit or to compare effluent quality with a numeric criterion. The condition also establishes protocols for calculation of reported values.

8. Effluent Monitoring Frequencies

Rationale: Permittees are granted a reduction in monitoring frequency based on a history of permit compliance. To remain eligible for the reduction, the permittee should not have violations related to the effluent limits for which reduced frequencies were granted. If permittees fail to maintain the previous level of performance, the baseline monitoring frequencies should be reinstated for those parameters that were previously granted a monitoring frequency reduction.

9. Sludge Management Plan

Rationale: VPDES Permit Regulation, 9VAC25-31-100 P; 220 B 2; and 420 through 720, and 40 CFR Part 503 require all treatment works treating domestic sewage to submit information on sludge use and disposal practices and to meet specified standards for sludge use and disposal.

10. Closure Plan

Rationale: Required by Code of Virginia § 62.1-44.18:3 and the Board's Financial Assurance Regulation, 9VAC25-650-10 et seq.

11. Permit Application Requirement

Rationale: The VPDES Permit Regulation, 9 VAC 25-31-100 D. and 40 CFR 122.21 (d)(1) require a new application at least 180 days prior to expiration of the existing permit. In addition, the VPDES Permit Regulation, 9 VAC 25-31-100 E.1. and 40 CFR 122.21 (e)(1) note that a permit shall not be issued before receiving a complete application.

Part II CONDITIONS APPLICABLE TO ALL VPDES PERMITS

Rationale: VPDES Permit Regulation, 9VAC25-31-190 requires all VPDES permits to contain or specifically cite the conditions listed.

ATTACHMENT 9

RECEIVING WATERS INFO./
STORET DATA

Wqm Water Shed Code L67
 Station ID 4ABAN023.28
 Station Description RT. 642 BRIDGE

Collection Date Time	Temp ° C	Field Ph	Hardness, Total (mg/L as CaCO3)
08/02/1990	22.9	7.1	20
11/01/1990	11.3	7.22	20
02/04/1991 12:00			16
02/04/1991 14:11			20
05/09/1991	17.7	7.27	28
08/19/1991	26.41	7.2	18
11/21/1991	13.54	6.81	
02/20/1992	8.85	6.56	18
05/18/1992	21.41	6.37	16
08/19/1992	23.9	6.62	22
11/09/1992	8.02	7.08	30
02/03/1993	3.49	6.89	21
05/13/1993	20.04	6.69	14
08/12/1993	24.76	6.76	20
11/09/1993	5.36	7	32
02/24/1994	6.53	6.13	16
05/16/1994	19.08	6.36	17
09/22/1994	17.58	7.07	18
12/15/1994	5.5	7.12	18
03/13/1995	7.8	6.84	16
06/19/1995	19.91	6.75	17
09/14/1995	21	7.05	28
12/13/1995	1.97	6.75	19
03/05/1996	5.42	7.14	16
06/06/1996	18.88	7.01	23
09/04/1996	20.14	5.87	26
12/09/1996	4.91	6.36	17
03/05/1997	9.36	6.48	18.9
06/19/1997	23.21	6.66	20.7
07/22/1997 12:45			18.3
09/15/1997	20.37	7.06	24
11/20/1997	2.87	6.97	20.9
12/03/1997 14:45			
01/29/1998	4.75	6.24	15.3
03/17/1998	6.68	6.75	10.5
05/13/1998	15.47	6.74	12.3
07/16/1998	23.7	7.07	23.9
09/17/1998	21.85	6.98	15.9
11/18/1998	8.37	6.7	18
01/07/1999 09:05			23
03/10/1999	3.89	6.66	38
05/18/1999	18.42	6.9	20
07/19/1999	26.01	7.02	22.4
09/20/1999	19.21	6.88	16.2
11/09/1999	10.97	6.5	15.5
02/09/2000	3.98	6.49	19.1

1

90% Temperature (Annual) = 24.4

90% Maximum pH = 7.4

10% Maximum pH = 6.5

03/30/2000	12.74	6.77	16
05/25/2000	21.78	6.85	17
07/18/2000	25.18	7.1	18
09/06/2000	19.25	6.87	19
11/06/2000	9.65	7.07	18
01/30/2001	5.97	6.75	19
08/28/2003	24.63	7.04	
10/09/2003	16.03	7.07	
12/10/2003	4.27	7.23	
02/26/2004	5.5	7.15	
04/06/2004	9.61	6.63	
06/16/2004 11:35			
08/26/2004	21.17	7.14	
10/14/2004	14.22	6.97	
12/06/2004	7.54	7.08	
02/07/2005	4.27	6.81	
05/02/2005	14.06	6.93	
06/08/2005	21.88	6.84	
07/25/2005	25.6	7.03	
08/30/2005	24.52	7.33	
09/26/2005	22.44	7.32	
10/17/2005	13.77	7.42	
11/15/2005	13.09	7.1	
12/12/2005	3.51	7.02	
01/09/2006	8.6	6.82	
02/06/2006	4.68		
03/13/2006	17.2	7.4	
04/10/2006	12.8	7.3	
05/22/2006	18.4	7.5	
06/19/2006	22.8	7.5	
02/12/2009	9.7	8.2	
04/20/2009	14.8	7.5	
06/16/2009	20.9	7.3	
08/03/2009	23.2	7.5	
10/20/2009	8.7	7.2	
12/14/2009	4.7	7	
02/16/2010	1.9	8.3	
04/06/2010	18.6	7.3	
06/16/2010	26.1	7.4	
08/19/2010	24.4	7.7	
10/28/2010	19.2	7.6	

Planning Statement for VPDES Permit Application Processing DEQ-SCRO

VPDES	OwnerName	Facility	County
VA0022730	Halifax County Public Schools	Sydnor Jennings Elementary School	Halifax

Outfall #: 001

River Basin: Roanoke

Receiving Stream: Bradley Creek, UT

Subbasin: Lower Dan/Banister

Watershed Code: L67R

River Mile: 0.4

	MGD		MGD
1Q10	0	HF 1Q10	0
7Q10	0	HF7Q10	0
30Q5	0	HF30Q10	0
30Q10	0	HM	0

Modeling Notes

WQMP Name No Plan
Statement

TMDL ID None

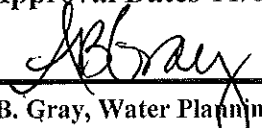
Impairment Cause

TMDL Due Date

Completed TMDL Information

Banister River Bacteria TMDL

TMDL Approval Dates 11/04/2007, 07/31/2008


Amanda B. Gray, Water Planning Engineer or
Paula Nash, TMDL Coordinator


Date

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
South Central Regional Office - Water Planning
7705 Timberlake Road Lynchburg, VA 24502 434/582-5120

SUBJECT: Flow Frequency Determination
Sydnor Jennings Elementary School - #VA0022730

TO: Frank Bowman

FROM: Amanda Gray *aby*

DATE: August 4, 2010

COPIES: File

The Sydnor Jennings Elementary School discharges to an unnamed tributary of Bradley Creek in Halifax County, Virginia. Flow frequencies are required at this site for use by the permit writer in developing the VPDES permit.

The flow frequencies for the receiving stream were determined by inspection of the USGS Quadrangle topographic map. The map depicts the stream as intermittent. The flow frequencies for intermittent streams are 0.0 cfs for the 1Q10, 7Q10, 30Q5, 30Q10, HF1Q10, HF7Q10, HF30Q10 and harmonic mean.

If you have any questions regarding this analysis please feel free to contact me.

MEMORANDUM
Department of Environmental Quality
Blue Ridge Regional Office-Lynchburg

7705 Timberlake Road

Lynchburg, Virginia 24502

Subject: Planning and TMDL Service Requests for VPDES Permits

To: Amanda Gray, Water Planning Engineer to
Paula Nash, TMDL Coordinator

From: Frank Bowman

Date: August 3, 2010

Copies: Planning File

The request for information is to be made at the following times:

Planning: Upon sending the reissuance reminder letter to the facility or, for an issuance or modification,
at the time of application/modification request receipt.

TMDL: Same as above. For VPDES general permits, at the time of registration statement receipt.

FACILITY NAME: Sydnor Jennings Elementary School

VPDES PERMIT NO. VA0022730

EXPIRATION DATE: July 31, 2011

FACILITY PHYSICAL LOCATION: 1011 Sydnor Jennings Road, Nathalie, VA

INDIVIDUAL PERMIT ACTION: Issuance **Reissuance** Modification

GENERAL PERMIT ACTION: New Coverage Previously Covered

PERMIT TYPE: Major **Minor** General **Municipal** Industrial Storm Water TMP TRE

If a VPDES General Permit, which type: _____

PERMIT WRITERS: ATTACH THE FOLLOWING

- Topo map with facility location and outfall locations clearly marked (include any proposed outfalls)
- Site diagram for facilities with multiple outfalls
- Description or map showing effluent flow path if not apparent on topo map
- The outfall numbers, latitude, longitude, receiving stream and topo name in the table below (use an additional sheet if there are more outfalls)

Outfall No.	Latitude	Longitude	Receiving Stream	Topo Name
001	36° 55' 18"	79° 1' 8"	Bradley Creek, UT	Halifax

DATE INFORMATION NEEDED: February 1, 2011

ATTACHMENT 10

TABLE A AND TABLE B -
CHANGE SHEETS

TABLE A

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes FROM PREVIOUS PERMIT and give a brief rationale for the changes).

OUTFALL NUMBER	PARAMETER	MONITORING CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL
001	<i>E. coli</i>	NA / 4 weekly samples in one month each year	NA / 126 N/100 ml	Banister River Bacteria TDML	6/10/11 FB
001	BOD5	1/Month to 1/3 Months	NA	Compliance record for the facility and Agency Guidance on reduced monitoring	6/10/11 FB
001	Ammonia	1/Month to 1/3 Months	NA	Compliance record for the facility and Agency Guidance on reduced monitoring	6/10/11 FB

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL
Indirect Dischargers and Materials Handling and Storage Conditions	Deleted	6/9/11, GFB

TABLE B

VPDES PERMIT PROGRAM
Permit Processing Change Sheet

1. Effluent Limits and Monitoring Schedule: (List any changes MADE DURING PERMIT PROCESS and give a brief rationale for the changes).

NOTE: INCLUDE ONLY CHANGES MADE DUE TO OUTSIDE COMMENTS (OWNER, EPA, PUBLIC, ETC.). LEAVE THIS TABLE OUT IF THERE ARE NO SUCH CHANGES.

OUTFALL NUMBER	PARAMETER CHANGED	MONITORING LIMITS CHANGED FROM / TO	EFFLUENT LIMITS CHANGED FROM / TO	RATIONALE	DATE & INITIAL

OTHER CHANGES FROM:	CHANGED TO:	DATE & INITIAL

ATTACHMENT 11

EPA/VIRGINIA DRAFT PERMIT SUBMISSION CHECKLIST

Part I. Virginia Draft Permit Submission Checklist

In accordance with the MOA established between the Commonwealth of Virginia and the United States Environmental Protection Agency, Region III, the Commonwealth submits the following draft National Pollutant Discharge Elimination System (NPDES) permit for Agency review and concurrence.

Facility Name:	Sydnor Jennings Elementary School
NPDES Permit Number:	VA0022730
Permit Writer Name:	Frank Bowman
Date:	5/04/11

Major ☐ Minor ☒ Industrial ☐ Municipal ☒

I.A. Draft Permit Package Submittal Includes:	Yes	No	N/A
1. Permit Application?	X		
2. Complete Draft Permit (for renewal or first time permit – entire permit, including boilerplate information)?	X		
3. Copy of Public Notice?	X		
4. Complete Fact Sheet?	X		
5. A Priority Pollutant Screening to determine parameters of concern?			X
6. A Reasonable Potential analysis showing calculated WQBELs?	X		
7. Dissolved Oxygen calculations?		X	
8. Whole Effluent Toxicity Test summary and analysis?			X
9. Permit Rating Sheet for new or modified industrial facilities?			X

I.B. Permit/Facility Characteristics	Yes	No	N/A
1. Is this a new, or currently unpermitted facility?		X	
2. Are all permissible outfalls (including combined sewer overflow points, non-process water and storm water) from the facility properly identified and authorized in the permit?	X		
3. Does the fact sheet or permit contain a description of the wastewater treatment process?	X		
4. Does the review of PCS/DMR data for at least the last 3 years indicate significant non-compliance with the existing permit?		X	

I.B. Permit/Facility Characteristics – cont.		Yes	No	N/A
5.	Has there been any change in streamflow characteristics since the last permit was developed?		X	
6.	Does the permit allow the discharge of new or increased loadings of any pollutants?		X	
7.	Does the fact sheet or permit provide a description of the receiving water body(s) to which the facility discharges, including information on low/critical flow conditions and designated/existing uses?	X		
8.	Does the facility discharge to a 303(d) listed water?		X	
8.a.	Has a TMDL been developed and approved by EPA for the impaired water?			X
8.b.	Does the record indicate that the TMDL development is on the State priority list and will most likely be developed within the life of the permit?			X
8.c.	Does the facility discharge a pollutant of concern identified in the TMDL or 303(d) listed water?			X
9.	Have any limits been removed, or are any limits less stringent, than those in the current permit?		X	
10.	Does the permit authorize discharges of storm water?			X
11.	Has the facility substantially enlarged or altered its operation or substantially increased its flow or production?		X	
12.	Are there any production-based, technology-based effluent limits in the permit?		X	
13.	Do any water quality-based effluent limit calculations differ from the State's standard policies or procedures?		X	
14.	Are any WQBELs based on an interpretation of narrative criteria?		X	
15.	Does the permit incorporate any variances or other exceptions to the State's standards or regulations?		X	
16.	Does the permit contain a compliance schedule for any limit or condition?		X	
17.	Does the permit include appropriate Pretreatment Program requirements?			X
18.	Is there a potential impact to endangered/threatened species or their habitat by the facility's discharge(s)?		X	
19.	Have impacts from the discharge(s) at downstream potable water supplies been evaluated?	X		
20.	Is there any indication that there is significant public interest in the permit action proposed for this facility?		X	
21.	Has previous permit, application, and fact sheet been examined?	X		

Part II NPDES Draft Permit Checklist
Region III NPDES Permit Quality Checklist – for POTWs
 (To be completed and included in the record only for POTWs)

II.A. Permit Cover Page/Administration	Yes	No	N/A
1. Does the fact sheet or permit describe the physical location of the facility, including latitude and longitude (not necessarily on permit cover page)?	X		
2. Does the permit contain specific authorization-to-discharge information (from where to where, by whom)?	X		

II.B. Effluent Limits – General Elements	Yes	No	N/A
1. Does the fact sheet describe the basis of final limits in the permit (e.g., that a Comparison of technology and water quality-based limits was performed, and the most stringent limit selected)?	X		
2. Does the record discuss whether “antibacksliding” provisions were met for any limits that are less stringent than those in the previous NPDES permit?			X

II.C. Technology-Based Effluent Limits (POTWs)	Yes	No	N/A
1. Does the permit contain numeric limits for <u>ALL</u> of the following: BOD (or alternative, e.g., CBOD, COD, TOC), TSS and pH?	X		
2. Does the permit require at least 85% removal for BOD (or BOD alternative) and TSS (or 65% for equivalent to secondary) consistent with 40 CFR Part 133?	X		
2.a. If no, does the record indicate that application of WQBELs, or some other means, results in more stringent requirements than 85% removal or that an exception consistent with 40 CFR 133.103 has been approved?			X
3. Are technology-based permit limits expressed in appropriate units of measure (e.g., concentration, mass, SU)?	X		
4. Are permit limits for BOD and TSS expressed in terms of both long-term (e.g., average monthly) and short term (e.g., average weekly) limits?	X		
5. Are any concentration limitations in the permit less stringent than the Secondary treatment requirements (30 mg/l BOD5 and TSS for a 30-day average and 45 mg/l BOD5 and TSS for a 7-day average)?		X	
5.a. If yes, does the record provide a justification (e.g., waste stabilization pond, trickling filter, etc.) for the alternate limitations?			X

II.D. Water Quality-Based Effluent Limits	Yes	No	N/A
1. Does the permit include appropriate limitations consistent with 40 CFR 122.44(d) covering state narrative and numeric criteria for water quality?	X		
2. Does the fact sheet indicate that any WQBELs were derived from a completed and EPA approved TMDL?			X

II.D. Water Quality-Based Effluent Limits – cont.	Yes	No	N/A
3. Does the fact sheet provide effluent characteristics for each outfall?	X		
4. Does the fact sheet document that a “reasonable potential” evaluation was performed?	X		
4.a. If yes, does the fact sheet indicate that the “reasonable potential” evaluation was performed in accordance with the State’s approved procedures?	X		
4.b. Does the fact sheet describe the basis for allowing or disallowing in-stream dilution or a mixing zone?			X
4.c. Does the fact sheet present WLA calculation procedures for all pollutants that were found to have “reasonable potential”?	X		
4.d. Does the fact sheet indicate that the “reasonable potential” and WLA calculations accounted for contributions from upstream sources (i.e., do calculations include ambient/background concentrations)?			X
4.e. Does the permit contain numeric effluent limits for all pollutants for which “reasonable potential” was determined?	X		
5. Are all final WQBELs in the permit consistent with the justification and/or documentation provided in the fact sheet?	X		
6. For all final WQBELs, are BOTH long-term AND short-term effluent limits established?	X		
7. Are WQBELs expressed in the permit using appropriate units of measure (e.g., mass, concentration)?	X		
8. Does the record indicate that an “antidegradation” review was performed in accordance with the State’s approved antidegradation policy?	X		

II.E. Monitoring and Reporting Requirements	Yes	No	N/A
1. Does the permit require at least annual monitoring for all limited parameters and other monitoring as required by State and Federal regulations?	X		
1.a. If no, does the fact sheet indicate that the facility applied for and was granted a monitoring waiver, AND, does the permit specifically incorporate his waiver?			X
2. Does the permit identify the physical location where monitoring is to be performed for each outfall?	X		
3. Does the permit require at least annual influent monitoring for BOD (or BOD alternative) and TSS to assess compliance with applicable percent removal requirements?		X	
4. Does the permit require testing for Whole Effluent Toxicity?			X

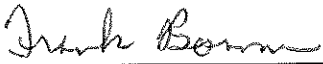
II.F. Special Conditions	Yes	No	N/A
1. Does the permit include appropriate biosolids use/disposal requirements?			X

II.F. Special Conditions – cont.	Yes	No	N/A
2. Does the permit include appropriate storm water program requirements?			X
3. If the permit contains compliance schedule(s), are they consistent with statutory and regulatory deadlines and requirements?			X
4. Are other special conditions (e.g., ambient sampling, mixing studies, TIE/TRE, BMPs, special studies) consistent with CWA and NPDES regulations?			X
5. Does the permit authorize discharge of sanitary sewage from points other than the POTW outfall(s) or CSO outfalls [i.e., Sanitary Sewer Overflows (SSOs) or treatment plant bypasses]?			X
5.a. Does the permit require implementation of the "Nine Minimum Controls"?			X
5.b. Does the permit require development and implementation of a "Long Term Control Plan"?			X
5.c. Does the permit require monitoring and reporting for CSO events?			X
6. Does the permit include appropriate Pretreatment Program requirements?			X

II.G. Standard Conditions	Yes	No	N/A
1. Does the permit contain all 40 CFR 122.41 standard conditions or the State equivalent (or more stringent) conditions?	X		
List of Standard Conditions – 40 CFR 122.41 <ul style="list-style-type: none"> Duty to comply Duty to reapply Need to halt or reduce activity not a defense Duty to mitigate Proper O & M Permit Actions Property rights Duty to provide information Inspections and entry Monitoring and reporting Signatory requirement Reporting requirements <ul style="list-style-type: none"> Planned change Anticipated non-compliance Transfers Monitoring Reports Compliance schedules 24-hour reporting Other non-compliance Bypass Upset 			
2. Does the permit contain the additional standard condition (or the State equivalent or more stringent conditions) for POTWs regarding notification of new introduction of pollutants and new industrial users [40 CFR 122.42(b)]?	X		

Part III. Signature Page

Based on a review of the data and other information submitted by the permit applicant, and the draft permit and other administrative records generated by the Department/Division and/or made available to the Department/Division, the information provided on this checklist is accurate and complete, to the best of my knowledge.

Name	Frank Bowman
Title	Environmental Engineer
Signature	
Date	05/04/11

ATTACHMENT 12

CHRONOLOGY SHEET

CHRONOLOGY OF EVENTS

APPLICATION RECEIVED	APPLICATION RETURNED	ADDITIONAL INFO REQUESTED	APPLICATION/ADD INFO DUE BACK IN RO	APPLICATION/ADD. INFO RECEIVED
01/31/011				
APPLICATION TO VDH: 02/02/11		VDH COMMENTS RECEIVED: 02/04/11		
APPLICATION ADMIN. COMPLETE: 01/31/11		APPLICATION TECH. COMPLETE: 04/21/11		

[illegible][illegible]